Arkansas Statewide
MEDICARE / MEDICAID
Locality Evaluation Study

Final Report

1982

This report is made pursuant to Contract No. 500-79-0036. The amount charged to the Department of Health and Human Services for the work resulting in this report (inclusive of the amount so charged for any prior reports submitted under this contract) is $346,890. The names of the persons, employed or retained by the contractor, with managerial or professional responsibility for such work or for the content of the report are as follows:

William G. Darnell, Vice President
Jean Pomeroy, Project Director
Harvey Wolfe, Technical Advisor

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Abstract

This Final Report of a four-volume study summarizes the data presented in the First and Second Reports on impacts of conversion of the Arkansas Medicare reasonable charge calculation from a five-locality to a one-locality geographic basis.

A separate volume details the methodology required to simulate the two methods for calculating the prevailing charge portion of the reasonable charge fee screens for both the Medicare and Medicaid programs, using a selected sample of procedure codes. Impacts on total payouts for both programs and on beneficiary liability for assigned and unassigned claims under the Medicare program are simulated. Actual assignment rates are calculated for the sampled procedures by locality and specialty group and actual payouts are presented by specialty group.

Volume One and Volume Two analyzed data for each of the first two fee screen years following implementation of the change--FSY 1979 and FSY 1980. Findings were: A small but insignificant decrease in total payouts for the Medicare program under the one-locality system for both years; and a substantial decrease for the Medicaid program for FSY 1979, with a slight but insignificant increase for FSY 1980. A slight decrease in assigned beneficiary liabilities and a substantial increase in unassigned beneficiary liabilities were evidenced in both years. No impact on availability of physicians was evidenced by Arkansas Health Manpower statistics and Medicare data on physician relocation. No significant impact on assignment rates over the two-year period was observed.

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I

INTRODUCTION

As a result of a request from the Arkansas Medical Society, the Medicare Bureau permitted the Medicare carrier, Arkansas Blue Shield, to convert from the then existing five-locality system to a statewide locality structure for reimbursing physicians. The change was implemented in March 1978. An evaluation of selected impacts of that change in the first two years following its implementation is presented below.

The methodology which has been developed for evaluation of the Arkansas change has also been developed and documented so that it may be applied, with appropriate modifications, to other similar situations contemplating a change in locality structure.

Localities under the Medicare program form the geographic basis for determining the "prevailing" charge portion of the "reasonable charge" calculation. Multilocality based prevailing charges are applied to a particular subset of providers and services reimbursed under Part B of the Medicare program. The five-locality system existed in Arkansas since 1966, when the Medicare program began in that State. It was based on the existing knowledge of geographically-based charging patterns in Arkansas at that time.

An additional ramification of the conversion is that the Arkansas Medicaid program, which uses Medicare computations of allowable charges for part of its fee determinations, was affected by the changeover.

[1] The Omnibus Reconciliation Act of 1981, Section 2174, rescinds Section 1902 of the Social Security Act prohibiting Medicaid from paying more than Medicare for comparable services.

A. Key Terms and Concepts of the Study

Central to the understanding of this study is the concept of reasonable charge. The methodology for determining reasonable charge to physicians and other suppliers of medical services and materials included under Part B of the Medicare program was established by Congress. A reasonable charge is based on a comparison of three charges:

1. The charge submitted by a physician or supplier for a covered service.

2. The "customary" charge, applicable to a particular physician and service.

3. The "prevailing" charge, applicable to a particular physician group, a particular locality, and a particular service.

The lowest of these three is selected as the reasonable charge for a service; and, normally, 80 percent of that charge (less any outstanding deductibles) is paid by Medicare for the claim. For Medicaid claims, 100 percent of the determined reasonable charge is paid.

The following terms and concepts are vital to this study. They are presented here to introduce the analysis of impacts of the change in the physician reimbursement system and to facilitate reference to them by the reader as the discussion and analysis proceed.

Customary charge. "The amount computed by the carrier based on actual charge data for a specific service performed by one physician (or other supplier) to the physician's patients in general."[2] The customary charge is the charge which is high enough to include the median charge for that service by that physician and is based on the claims for services performed in the calendar year prior to the fee screen year in which it is applied (e.g., the claims for services for 1977 calendar year are used to establish the customary charge for FSY 1979).

Prevailing charge. "The lowest charge of the array of customary charges which is high enough to include 75 percent of all the customary charges."[3] The prevailing charge is based on the customary charge for all physicians within a particular specialty group and locality, (weighted by the number of services represented by each customary charge for the Medicare program).

Submitted charge. The actual amount billed by a physician or service/equipment provider which may include one or more services. This is the same as the term "claim" used elsewhere in this report.

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[2] Determination of Reasonable Charges Under Part B of Medicare: A Training Workbook, HCFA, Baltimore, Maryland, p. 46.

[3] Ibid., p. 47.

Carrier. A commercial insurance firm or Blue Shield administering Part B of Medicare. It is distinguished from commercial insurance plans or Blue Cross plans administering Part A which are referred to as intermediaries.[4]

Locality. A locality is usually a political or economic subdivision of a state which is delineated by a carrier for the purpose of deriving prevailing charges for services. It should include a cross-section of the population on economic and other characteristics. Localities were provided for in Medicare regulations to take advantage of existing knowledge of charging patterns within a state. They were developed on private claims experience by carriers before the Medicare program was implemented.

Specialty. A group of physicians working primarily in a certain area of medicine. These categories provide part of the criteria for establishing prevailing charges, since it is assumed that a "specialist" in a particular functional area of medicine could be expected to have a different charging pattern for a service than, for instance, a general practitioner providing the same service. For example, it is reasonable to expect that a dermatologist removing a wart would charge a different fee for the service than a general practitioner providing the same service, based on specialized training and experience in the case of the former.

Procedure. A "medical service" provided by a physician, designated for the purposes of this study by either of two coding methods for medical services--the California Relative Value Scale (CRVS) of 1964 utilized on Medicare claims and the Physicians' Current Procedural Terminology (CPT), editions 3 and 4, utilized by the Arkansas Medicaid program for submitted claims.

Fee Screen Year. A one-year period from July 1 through June 30 of the succeeding year. Claims received during this period are "priced" utilizing claims for services rendered in the preceding calendar year. Hence, claims received during FSY 1979 (July 1, 1978 through June 30, 1979) are priced using fee screens developed on calendar year 1977 claims for services.

Fee screens. The total matrix of charge limitations calculated by the carrier. They are compared with the charges submitted during the fee screen year in order to determine reasonable charge for a claim.

To reiterate then, the reasonable charge is based on selection of the lowest of three charges, two of them derived from the prior calendar year's claims. This is the basic process which was simulated in the current study for FSY 1979 (July 1, 1978 through June 30, 1979), and FSY 1980 (July 1, 1979 through June 30, 1980).

[4] Ibid., p. 45.

Assignment. Under Medicare, assignment means that the physician agrees to accept as total payment for a service the reasonable charge calculated by Medicare. If the claim is "unassigned" the physician does not agree to accept the reasonable charge as his total payment. If a claim is "unassigned," Medicare pays 80 percent of the calculated reasonable above the deductible and the patient is responsible for the balance of the difference between the amount remitted by Medicare and the submitted charge. If a claim is "assigned," the patient is liable for the 20 percent of the calculated reasonable charge not paid by Medicare. Assignment is established on a claim-by-claim basis, and may vary during the course of treatment of a single patient for a single complaint. Under Medicaid, all cases are "assigned," i.e., the physician must agree to accept the Medicaid-determined reasonable charge as total payment.

Beneficiary liability. For Medicare assigned claims, the patient is responsible for 20 percent of the reasonable charge. For unassigned claims, the beneficiary (patient) is responsible for 20 percent of the reasonable charge plus any amount above the reasonable charge billed by the provider/physician.

Pricing. Determining the payout for claims, i.e., determining reasonable charge for a claim and amount to be paid by either Medicare or Medicaid (e.g., for Medicaid, usually 100 percent of the reasonable charge and for Medicare, 80 percent).

Crossover claims. Where a patient is eligible under both Medicare and Medicaid programs, Medicare determines the reasonable charge and pays 80 percent of the payment; and in Arkansas Medicaid has opted to remit the remaining 20 percent (of the Medicare calculated reasonable charge) to the physician.

Multispecialty clinics. Customary charges are developed for clinic service by a physician, and if there is a private practice for the same physician, a second customary charge is calculated. Customary charges are calculated separately for each multispecialty clinic from which the physician submits claims to Medicare. (Medicaid does not consider clinic practice separately in Arkansas and calculates only one customary for each physician.)

Unispecialty clinics. Under Medicare, these clinics are treated as if they were a physician, so that a customary charge is developed on all charges for a service submitted from the clinic, regardless of the physician performing the service.

Economic index. This limitation is calculated from a formula which reflects increases in costs of providing medical services, based on the costs of office practice and earnings levels in the population as a whole.

Weighted average reasonable charge. A summary measure of average payment for services within a category, derived by taking total payout for a category and dividing by the number of services which were reimbursed by the payout amount.

B. Steps Toward Completing the Evaluation

It was anticipated that the modification in the procedure for calculating reasonable charge would result in a number of operational and financial effects which could include:

- Readjustment of physician fees due to the single statewide system.
- Relocation of some physicians to more rural areas as incentive to practice in the higher cost urban areas decreases.
- Changes in both Medicare and Medicaid program payments.
- Changes in the availability of medical services in certain areas.
- Adjustments in Medicare beneficiary liabilities for meeting co-insurance provisions of the program.
- Changes in payouts on Medicare/Medicaid eligible claims.

The purpose of this evaluation is to assess the impact of the change in reasonable charge calculations over the period July 1978 through June 1980, the first two fee screen years following implementation of the change. The methodology for measuring the impacts of the change on both programs includes simulation of the normal process for determining reasonable charge for selected services under two conditions: 1) the statewide locality structure, and 2) the five-locality structure. An analysis of appropriate existing statistical reports on medical manpower in Arkansas has also been undertaken.

In order to meet the requirements of the evaluation and, at the same time, work within the limitations of the data which could be reasonably obtained for this project, the following steps were taken toward completing the evaluation and producing a transportable methodology:

- Procedures for reimbursing physicians for both Medicare and Medicaid programs were studied for periods prior to and during the two-year study time beginning July 1, 1978 and ending June 30, 1980.
- Descriptions of claims processing computer operations for Medicare and Medicaid and tapes containing data for calculating fee screens and for pricing claims for the study period were obtained.
- The Profile Development System (PDS) methodology utilized by Arkansas Medicare and Medicaid programs and the CPT and CRVS coding schemes utilized for determining fee screens were studied.

- A procedure mix was developed which reflects the majority of services performed within the three physician payment groups (Medical Specialties, General Practice, and Surgical Specialties) and which represents a large proportion of Medicare and Medicaid program payouts. Since procedure codes, and not specialty, were the basis for sampling, all physicians claims not falling within the three main categories of specialty are included in an "Other" category for the analysis.

- An approved methodology for producing tabular, graphical and explantory results was developed which both measures and correlates the changes in locality structure with the following:

  1. Medicare Program Payments
  2. Medicaid Program Payments
  3. Medicare-Medicaid Program Payment Interface
  4. Availability of Medical Services
  5. Program Payout for the Unique CRVS Procedure Codes for Office Follow-up Visit and Hospital Follow-up Visit
  6. Locality and Statewide Prevailing Charges and Corresponding Weighted Average Reasonable Charges for Selected Procedures
  7. Estimated Totals for Medicare Program Payouts
  8. Assignment Rate Changes in Medicare
  9. Potential Beneficiary Liability
  10. Medicare Program Claims where Reasonable Charge Equals Prevailing Charge
  11. Medicaid Program Claims where Reasonable Charge Equals Prevailing Charge
  12. Medicare-Medicaid Claims where Reasonable Charge Equals Prevailing Charge

- Specifications for data requirements, which are computer independent of the organizations providing data and at the same time specific enough to be used by the contractor and State agency providing the data, were prepared and submitted to the Arkansas carrier.

- Programs to reduce the volume of the computerized databases were developed.

- Programs were developed to produce fee screens for both the five-locality and one-locality analyses, including programs to price claims under each locality structure and to produce tables of comparative data.

C. Summary of Study

The study consists of four volumes, three containing data analyses and the fourth a thorough description of the methodology and software utilized in the study.

In Volume I a general methodology for measuring potential impacts was devised and discussed, and an analysis was presented for the first year of physician claims data, i.e., FSY 1979. In addition, health manpower statistics provided by the State of Arkansas were analyzed relative to the questions concerning availability of medical services in each locality over the period of the study; and data on physician movement provided by ABCBS were also explored relative to those questions.

Volume II presented an anlaysis of physician claims for Medicare and Medicaid for FSY 1980 and a comparative analysis of FSY 1979 and FSY 1980 physician claims data.

The Final Report is a synopsis of the first and second fee screen year reports and trend analysis.

A separate document contains a full description of the Methodology and Systems Design developed for the study.

Summary of findings: First Year Report

The findings of the first year study were as follows:

In the area of payouts, the impact of the change for both Medicare and Medicaid programs appears to be a slight reduction in overall payouts for the first year. Insofar as beneficiary liabilities under the Medicare program are concerned, a slight reduction in assigned beneficiary liability was observed, mirroring the overall reduction in payouts; and as might be expected, an increase in overall beneficiary liability was observed for the "unassigned" claims under the program.

As far as assignment rates were concerned, the overall rate was about 52 percent in the first year, with a somewhat higher proportion assigned in the "General Practice" physician group, and somewhat lower proportions assigned in the "Medical Specialties" and "Surgical Specialties" categories. In terms of type of charge selected as reasonable charge, the most frequently selected charge was the submitted charge, with about 45 percent of selections; the second most frequently selected was the customary charge, with about 41 percent of selections; and the lowest proportion of selections was the prevailing charge, with about 15 percent of selections.

Finally, available data on health manpower for the State of Arkansas were examined to determine whether the change in calculating reasonable charges influenced the availability of medical services. One argument for the change in procedure had been that it would encourage physicians to locate in rural areas of the State. The data examined indicated no observable change in propensity of physicians taking part in the Medicare program to locate in rural areas, and showed very little movement by physicians at all.

An analysis of Medicare-Medicaid interface data supplied by Arkansas Medicaid revealed serious problems with the quality of the data and, therefore, the validity of any findings based on such data. A discussion of these problems is presented in the First Year Report.

Summary of findings: Second Year Report

Medicare findings for the second year (FSY 1980) were, in general, the same as for FSY 1979. Payouts for the statewide simulation were lower overall than for the multilocality simulation. Beneficiary liabilities for the assigned claims likewise were lower for the statewide simulation; and for unassigned claims, beneficiary liabilities were higher under the statewide simulation just as they were in FSY 1979.

Medicaid payouts, however, were higher overall under the statewide simulation than under the multilocality simulation, the reverse of the pattern for overall payouts in FSY 1979. However, the first quarter of FSY 1980 showed the payouts under the statewide simulation to be lower than under the multilocality simulation. This indicates one of two possibilities:

1. The impact from the change in the procedure coding system for Medicaid from CPT-3 to CPT-4, implemented in July 1979 (the beginning of FSY 1980) was evidenced in the second quarter of FSY 1980, when Medicaid vendors had had time to learn to utilize the new system.

2. The reversal of the pattern exhibited in FSY 1979 represents a trend toward higher payouts resulting from the change to a statewide system and is independent of the change to the CPT coding system.

For the special procedure categories, Office Follow-up Visit and Hospital Follow-up Visit, the findings in terms of total payouts and beneficiary liabilities were similar to those for Medicare and Medicaid findings as a whole. Three increases were observed in the prevailing charges for each of the two procedure categories and for each of the two programs between FSY 1979 and FSY 1980. These were for the two most urban localities, Locality 1 and Locality 2

(ignoring Specialty category) and for the statewide prevailing charge (ignoring Specialty category). The rate of increase for each case was above the 7.5 percent inflation rate, perhaps reflecting the higher inflation in charges for medical services in the urban areas.

Medicaid payouts for the Office Follow-up Visit were higher under the multilocality simulation, while they were lower under this simulation for the Hospital Follow-up Visit procedure category. This undoubtedly reflected the same factors which were evidenced in the total Medicaid payouts for the three Specialty groups. For the General Practice category, payouts were higher under the multilocality simulation; while for the other two Specialty categories payouts were lower. Since the General Practice category should absorb the preponderance of claims from the Office Follow-up Visit procedure code category, while the specialties such as Surgical Specialties and Medical Specialties should absorb the preponderance of claims in the Hospital Follow-up Visit category, it can be expected that the change in calculating reasonable charge would impact the two procedure categories in different ways, reflecting the difference in the physicians submitting claims.

Assignment rates showed no significant difference from Year 1 to Year 2, with only a slight decrease--about 1.3 percent--in proportion assigned from FSY 1979 to FSY 1980. No trend can be inferred from this.

Insofar as selections of submitted, customary, and prevailing charges are concerned, a higher proportion of prevailing charges was selected for the Medicare Program in FSY 1980, and lower proportions of customary charges and submitted charges were selected. Differences between the two simulations were negligible in terms of total selections. The greatest difference in the two simulations was, again, in Locality 1.

For Medicaid, overall selections of prevailing charges were increased more under the multilocality methodology. Selections of customary charges increased by over 10 percent under each of the simulations; selections of submitted charges decreased by 14 percent under the multilocality simulation, and about 12 percent under the statewide simulation. The customary charge was the one selected most frequently (over 50 percent of the time) under both simulations, indicating little relative impact from the change in calculating prevailing charges (since the customary charge calculations would not be influenced by the change in the locality system).

Summary of findings: Final Report

A summary of the findings based on comparative and trend data for FSY 1979 and FSY 1980 are presented below.

Medicare

For the Medicare program, data for the two fee screen years and trend data generally support the same observations:

- Under the statewide system for prevailing charge calculation, payouts will be slightly reduced and beneficiary liabilities for assigned claims will reflect this reduction.
- Beneficiary liabilities for unassigned claims will be increased.
- The preponderance of payouts in Locality 1 for each fee screen year (40 percent of total) sets the pattern of reduced payouts for the program as a whole and counterbalances the increase in payouts to more rural areas (Localities 2 through 5) resulting from the general increase in prevailing charges to the more rural areas under the statewide system.

Medicaid

For the Medicaid program, the simulations indicate:

- Payouts would be significantly decreased under the statewide simulation for FSY 1979 and slightly but insignificantly increased for FSY 1980.
- For the Medicaid program, less than 25 percent of total payouts for each year were in Locality 1; thus the increase in payouts to more rural areas, resulting from the increase in prevailing charges in the non-urban localities, is not counterbalanced by the decrease in payouts in urban areas as it is under the Medicare program.

Assignment Rates*

Insofar as assignment rates are concerned, there is little evidence of a trend toward lower assignment rates to compensate for lowered prevailing charges. Differences between FSY 1979 and FSY 1980 were small or nonexistent both in total and for each Specialty Group and each Locality.

*Assignment rates included in this report will generally be lower than those contained in various reports published by HCFA. This is due to the fact that this study deals only with claims for physicians' services while the HCFA assignment rates include assignment rates for all other services such as laboratory services, durable medical equipment, etcetera.

Type of Charge Selected as Reasonable Charge

For type of charge selected as reasonable charge, the following observations were made:

- A large increase was evidenced in proportion of prevailing charges selected as the reasonable charge from FSY 1979 to FSY 1980 for the Medicare program--a difference of about 10 percent.
- For the Medicaid program, only a slight increase in the selections of prevailing charges was evidenced, along with an increase of more than 10 percent in selections of customary charges.
- For both programs, proportions of prevailing charges selected using the five-locality simulation were about 10 percent lower than with the statewide simulation for Locality 1, the most urban locality.
- Differences between proportions of prevailing charges selected in Localities 2 through 5 under each method were much less than for Locality 1 under either program.
- Because of the preponderance of claims in Locality 1 under the Medicare program, the change in Locality structure impacts that program more, in terms of overall impact of the prevailing charge, than it does the Medicaid program.

Impact of Economic Index

Because Arkansas did not supply appropriate base period data for calculating the Economic Index limitation on prevailing charge increases, a separate analysis of the probable impact of the Index on the study findings was undertaken.

In determining the potential impact of the Economic Index, the following observations and probable impacts on our findings are suggested, utilizing FSY 1979 as a base for FSY 1980 prevailing charges:

- About 44 percent of all prevailing charges increased at a rate higher than the "annualized index" of 7.5 percent under the multi-locality simulation.
- Statewide prevailing charges increased at a rate higher than 7.5 percent in 60 percent of the cases.

As a result we can expect that, all else being equal:

- The statewide payout figures and assigned beneficiary liabilities will be overestimated in comparison with the multilocality simulation.
- Payouts and assigned beneficiary liabilities will be overestimated under both simulations, and relatively more under the statewide simulation, compared to the actual payout and actual liability figures.
- Unassigned beneficiary liabilities will be underestimated since reasonable charges will be too high on the average, leaving a larger balance for the patient to absorb, particularly for the statewide simulation.

The methodology for this study is discussed fully in a separate Methodology and Systems Design document. This volume includes the following material:

- Introductory material, providing general background information on the purpose of the study and definitions for key terms.
- A full discussion of the methodology including:
  - The parameters of the simulation
  - The criteria for procedure selection
  - The methods for calculating customary charges for Arkansas Medicare and Medicaid claims
  - The methods for calculating prevailing charges for Arkansas Medicare and Medicaid programs
  - The methods for pricing claims for each program as they were implemented in the study
  - Operational definitions for special terms used in the tabular presentations
- A discussion of the software and system design utilized to implement the methodology
- A discussion of the advantages of the study design
- A discussion of the constraints on the methodology as a result of the unique characteristics of the Arkansas site or as a result of the need to resolve conflicts in possible goals of the study (e.g., the question of whether to include new physicians in the pool of physicians utilized in the second year of the study, or to have a constant pool of physicians, thus reducing the potential for confounding factors associated with possible differences in charging practices by the entering physicians).

Programs utilized for the Arkansas study may be obtained on tape by special request to the HCFA Project Officer.

D. Recommendations

The Arkansas setting represents a test case for the methodology developed for this particular evaluation. Some characteristics of this study are, therefore, unique to the Arkansas case. Some modifications to the methodology would be desirable if it were to be applied in other settings. These are discussed below. However, before doing so it will be important to note certain differences between the statistics obtained in the evaluation and figures which would have been obtained from the total population of Medicare or Medicaid claims. These should be kept in mind, both in utilizing the findings of this study and in deriving a sample of procedures to be included in any similar study.

Generalization of Findings

The Arkansas case

In a simulation, factors which are constant need not be considered, since they by definition remain unchanged under the test conditions. Therefore, in defining the population of eligible claims and selecting procedure codes for inclusion in the study, procedures which were not priced utilizing the multilocality system were eliminated from consideration as potential candidates.

Likewise, those procedures which were very "large ticket" items were also eliminated from consideration, since a single service contributes disproportionately to the dollar payout figure. Very low priced items were also eliminated from consideration, since they contribute very little to payouts while increasing the costs of data processing disproportionately to their contribution.

At the same time, procedures were selected with a view toward including a representative range of services across all specialty groups affected by the change in the locality system. Some flexibility in the criteria for selection--i.e., a service frequency of 600 or more and at least $30,000 in payouts--in order to ensure a representative range of procedures was exercised. (See Methodology and Systems Design document for a more thorough discussion of the procedure selection process.)

The interpretation of study findings must therefore be couched in terms of the type of claim included in the study. Generalization back to the population of claims as a whole is not warranted by the sampling criteria. Rather, the interpretation should rest on comparison of the three dollar figures presented--the simulated multilocality and statewide payout and beneficiary liability figures, and the actual figures taken from the records priced for the simulation. These represent about 50 percent (or more) of the total payout figures for the eligible Medicare claims, which is sufficient to establish the general effect of the change in the locality system on payouts.

By eliminating claims which would not have been affected by the locality change, or which are very unlikely to have been substantially affected (e.g., the Lowest Charge Level procedures), we have eliminated both costly data processing and also a subpopulation of claims which may be subject to other factors influencing the amount of the payout. By limiting the claims to the most normal cases priced under the five-locality system, we also limit the potential for extraneous factors which may influence payouts.

Other Sites

As far as generalization of the results of this study to other sites is concerned, it should be kept in mind that Arkansas is a unique case in many respects. The results of this study would not be appropriately applied to another site contemplating a similar change.

The findings for the Medicare program in Arkansas are shaped to a large degree by the distribution of payouts among the localities. One locality received a much larger proportion of payouts than any of the other four localities, and this locality was the most urban of the five. This factor alone may make the results of the Arkansas study atypical.

The reader is cautioned, therefore, to interpret the findings of this study in light of the above discussion of the study design and the unique characteristics of the Arkansas site. Recommended modifications to the methodology, if applied to other similar settings, are provided below.

Economic Index

Because of the apparent substantial impact of the Economic Index on payouts under the method of calculating prevailing charges, the Index should definitely be implemented if at all possible in future research. This would not be a difficult revision to the system, but would simply add an additional comparison for Medicare to the pricing process for reasonable charge. A more complex comparison is already implemented for the Medicaid program, and the revision to the Medicare pricing would be the same, i.e., the MAIN program (see Methodology and Systems Design document) would be revised to provide for the additional comparison. The Ecomomic Index ceiling could not be implemented in the current study because Arkansas Blue Cross/Blue Shield did not supply appropriate base period data.

Type of Charge Selected as Reasonable Charge

In the future it would be advantageous to know the number of ties between prevailing and customary and submitted charges in the selection process. This provides a means for evaluating the importance of the prevailing charge as a limitation in the absence of either of the other two charges. The proportion of "ties" would provide the means for evaluating the value of each type of charge as a single estimate of the reasonable charge. This would require a minor modification to the MAIN program. (See Methodology and Systems Design document.)

A pretest and posttest design could easily be implemented in the area of assignment rates during the Extract process, by tabulating assignment rates on the prior fee screen year's claims in the same way as payouts and service frequencies are currently tabulated for each specialty group and locality in the Extract process. This would allow us to compare the assignment rates prior to implementation of the change in locality system with those subsequent to implementation of the change.

Tabulations could be made at one of two points: before the selection of procedures for inclusion in the study (where the Extract program now tabulates specialty and locality payouts and service frequencies) or after selection of procedures, so that assignment rates would be limited to those procedures included in the study, as they are in the current study.

It should be noted that, following the former procedure (i.e., before selection) should provide an overall assignment rate, such as that already published by HCFA for the State. The latter procedure (i.e., subsequent to sampling), followed in this study, will provide the assignment rate on the sampled claims, which should be somewhat lower than the overall rate. (See Methodology and System Design document.)

II
THE ARKANSAS SITE

In March 1978, a revised methodology for calculating prevailing charges was implemented by Arkansas Blue Shield, the carrier for Part B of the Medicare program in the State of Arkansas. This new procedure--a conversion from the five-locality to a statewide system--responded to a request from the Arkansas Medical Society to the Medicare Bureau for such a change.

The society argued that the then current system discouraged physicians from locating in rural areas, since the prevailing fees for rural localities were substantially lower than those for the same services in urban areas. The Medicare Bureau evaluated the customary charging patterns for physicians in the State of Arkansas, using the Service Area Wide (SAW) methodology developed for this purpose, and found that the five-locality system did, in fact, reflect true differences in charging patterns throughout the State, and thus complied with the intent of regulations governing locality designations for the Medicare program.

However, the Medicare Bureau granted the change to a statewide system on an experimental basis and contracted for a study to evaluate the impact of the change on selected aspects of the State's medical environment. A dual purpose was envisioned for the study: 1) to evaluate the specific impacts on medical services in the State of Arkansas; 2) to provide a general methodology which could be applied, with modifications, to other sites entertaining the idea of changing to a statewide system.

A. Medicare and Medicaid in Arkansas

The organization administering claims processing for both Medicare and Medicaid in Arkansas is Blue Cross/Blue Shield (ABCBS). ABCBS has administered the Medicare program since its inception in Arkansas in 1966. However, Medicaid claims were processed separately from the Medicare program until July 1, 1978, when the Arkansas Department of Human Services, Division of Social Services, which administers the Medicaid program for Arkansas, contracted with ABCBS to act as its intermediary for the Medicaid program as well.

B. The Arkansas Locality System

In general, a locality is identified as a politically or economically delineated geographic area which includes a cross-section of the population in terms of economic and other characteristics. In Arkansas the five localities were based on economic considerations,[1] i.e., actual differences in charging patterns by physicians in the different areas. The Arkansas localities, therefore, were in accord with Medicare regulations which state:

> "For the purpose of making reasonable charge determinations, a locality is the geographic area for which the carrier is to to derive the prevailing charges for services. Usually a locality will be a political or economic subdivision of a State, and it should include a cross-section of the population with respect to economic and other characteristics." (5020.1 Determination of Locality. Medicare Carriers Manual, January 1977.)

The localities as they existed in 1977 have been described on an urban to rural continuum as follows[2]:

Locality 1: 2 counties, urban, approximately 771 physicians, 83 percent specialists

Locality 2: 6 counties, urban, approximately 382 physicians, 76 percent specialists

Locality 3: 6 counties, suburban, approximately 143 physicians, 42 percent specialists

Locality 4: 15 counties, suburban-rural, approximately 263 physicians, 37 percent specialists

Locality 5: 45 counties, rural, approximately 258 physicians, 8 percent specialists

Figures 1 and 2 show the counties of Arkansas, present relevant data regarding the supply of physicians in them, and identify the five-locality system.

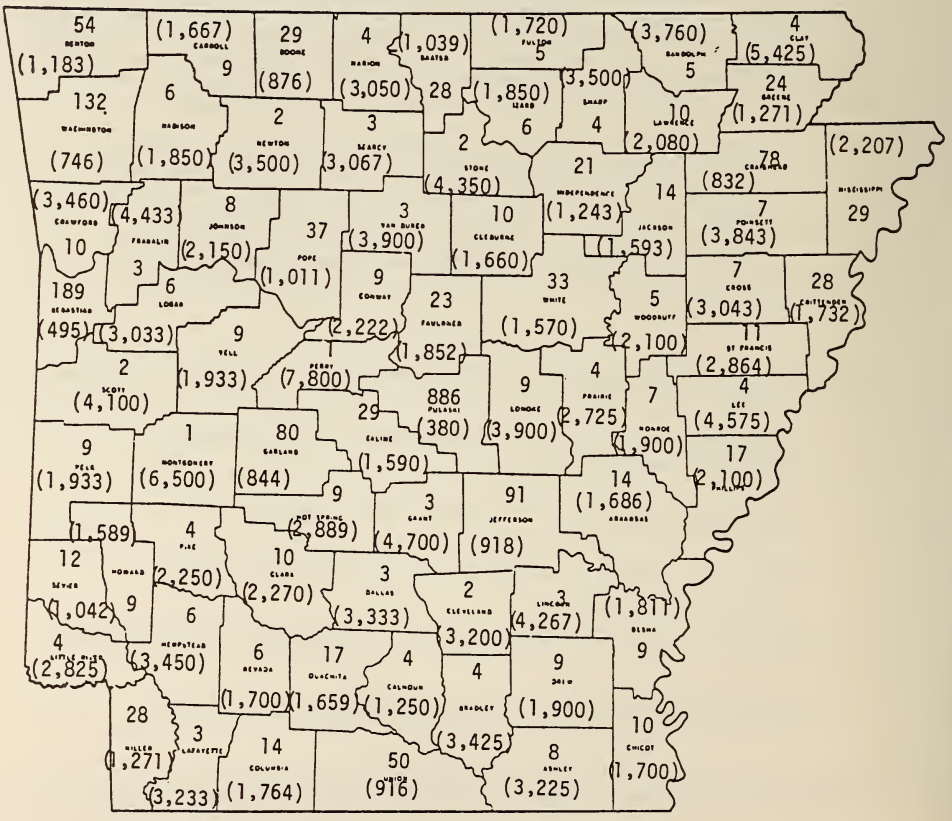
[1] Regional Carrier Letter No. 77-8, Reasonable Charge Survey, XIII.C.1. "Localities were set up based on economic conditions within each county established by the Medical Society."

[2] See Memo from Jim Reed, DHEW, HCFA Dallas Regional Office, February 1, 1978 to James R. Merryman. Also see accompanying maps.

Figure 1

Active Physicians and Population/Physician Ratio

Arkansas: 1979



By County: Number of active physicians and population/physician ratio ( ), 1979 figures.*

*Arkansas Health Manpower Statistics, Physicians, 1979, Division of Health Statistics, Arkansas Dept. of Health.

Figure 2

The Arkansas Five-Locality System
1978

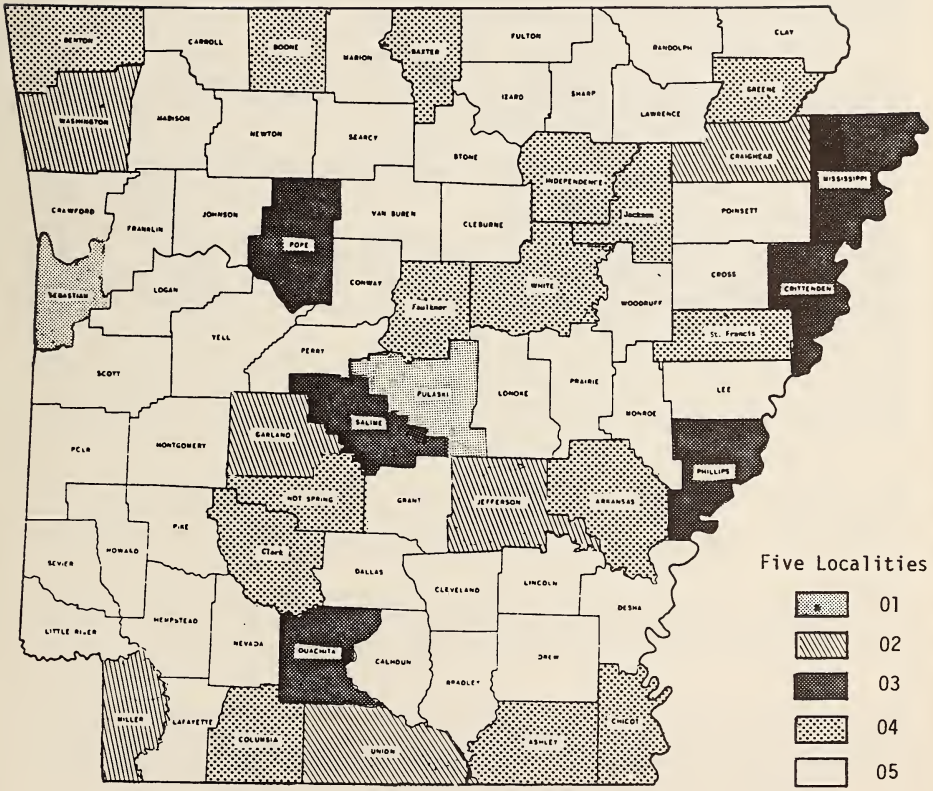


Figure 1 presents numbers of active physicians within each county in Arkansas during 1979 and the population-to-physician ratios for each county. Figure 2 shows the Arkansas locality system as it existed immediately prior to the conversion to a statewide system. The high population-to-physician ratios in the more rural areas can be compared to the lower ratios in the more urban areas. The concentration of active physicians, particularly in Pulaski County (Locality 1), can also be observed.

It should be recalled that one of the purposes of this evaluation is the determination of whether changes in the basis for calculating prevailing charges will encourage physicians to relocate or locate within rural areas. More will be said about this in Chapter III.

Currently, Arkansas is one of 17 jurisdictions (i.e., of the 50 States and the District of Columbia) with a statewide system for calculating prevailing fees. There seems to be a gradual trend in the direction of simplifying the calculation of prevailing charges to a statewide system, with two more states now exploring the possibility of going to a one-locality system. In 1977, there were only 13 jurisdictions with a single locality. Thus, Arkansas is not an isolated case but can be viewed, rather, as part of a National trend.

C. The Computer Software

Prior to November 1, 1979, Medicare claims were processed for Arkansas Blue Shield by Optimum Systems, Inc. Claims are now processed in-house, utilizing the system developed by Optimum Systems specifically for processing the Arkansas Medicare claims. Optimum Systems has not maintained the Medicare database since the end of 1979 when ABCBS took over its own processing.

Medicaid computer software for claims processing, on the other hand, is a general package for the purpose of health claims processing (MMIS) purchased by Medicaid and maintained by Blue Cross of Arkansas. Medicaid payments for physicians' services were administered by the Arkansas Department of Social Services until July 1978, when claims processing was turned over to Arkansas Blue Cross/Blue Shield.

Prior to October 1978, Medicaid utilized fee screens (customary and prevailing charges) developed by ABCBS for Medicare claims processing (i.e., for determining reasonable charges). Beginning with 1977 calendar year data, Medicaid has developed its own customary charges, which are then compared with Medicare customary charges. However, Medicaid continued to utilize Medicare prevailing charge screens. Customary charges developed by Medicare were used until October of 1978, when the customaries based on 1977 Medicaid claims data were implemented. Prevailing charges and customary charges developed on 1978 calendar year Medicaid claims were implemented (after appropriate comparison with Medicare screens) in January 1980 and have been in use since then.

There is, therefore, a very close relationship between the Medicare and Medicaid systems insofar as determination of reasonable charge is concerned. Naturally, the change in the Medicare locality system impacts the Arkansas Medicaid program in a manner analogous to the Medicare program.

Medicare fee screens are updated regularly, using claims for services performed in the preceding calendar year to develop the customary and prevailing charges. The new screens are implemented for pricing claims received on or after July 1 of the following year.

The very different claims processing software utilized by the two programs and the different schedules for updating fee screens have required significant modifications to the evaluation methodology to reflect the unique characteristics of each program. (See Methodology and Systems Design document.)

D. Coding Systems for Medical Procedures

A major difference in the two systems is the use of the California Relative Value Scale (CRVS) coding system by Medicare to identify medical procedures for claims processing and the use of the Physicians' Current Procedural Terminology (CPT) coding system by Medicaid for its claims processing. A cross-referencing system was required by law, since Medicaid was required to compare its fee screens to those generated by Medicare for the same procedures and for the same physicians. Medicaid cross-references between the CRVS system utilized by Arkansas Medicare and its own CPT system and then uses the CRVS system to compute its fee screens. Nonetheless, the cross-referencing is not precise and is in some cases rather arbitrary.[3] Because the Medicaid coding system recognizes the larger number of categories provided by the CPT system, several Medicaid procedures may be included in a single Medicare code. Because the Medicaid coding system recognizes the larger number of categories provided by the CPT system, several Medicaid procedures may be included in a single Medicare code. An additional complicating factor relevant to this study is the changeover by Arkansas Medicaid from CPT-3 to CPT-4 versions of the procedure coding system in July 1979, the beginning of the second year of this study. Therefore, the tables generated in this study for cross-referencing CRVS and CPT codes account appropriately for both the CPT-3 and CPT-4 versions of the codes.

Given the above-described conditions existing in Arkansas, a methodology was developed which permits the evaluation of the change from a multilocality to a one-locality system and, at the same time, is compatible with the characteristics of the Arkansas setting. A detailed description of the methodology is provided in the Methodology and Systems Design document.

[3] See Cross-Reference Memorandum and Accompanying Reports, Arthur Anderson & Company, November 1979, on this subject as it applies to Arkansas.

III
ANALYSIS

A. Medicare Payouts

specialty groups and actual payouts

Table I-A presents simulated and actual payouts for FSY 1979 and FSY 1980 by quarter for both simulations and for actual payout figures by specialty category. These data are summarized in Tables I-B and I-C, the former presenting the percent increase or decrease in payouts indicated by our simulations when the statewide rather than the multilocality system is used. Table I-C shows the percent difference in statewide simulated payouts and actual payouts (obtained from summing the paid amount from each record). The quarterly figures permit examination for possible trends over the two-year period. Several points should be observed from these tables:

- Table I-A shows that about 53 percent of total payouts for claims are included in the FSY 1979 data (i.e., $33,166,434 in our sample versus $62,809,927 total payouts) and about 50 percent of payouts are included in the FSY 1980 sample (i.e., $38,011,292 of a total $76,679,835).

- Overall, payouts for each year were slightly reduced under the statewide system, when compared with the multilocality system (Table I-B) with a reduction of about 0.83 percent in 1979 and 0.70 percent in 1980. The reduction is slightly greater for the General Practice category than it is for the other specialty groups, although the differences in all cases are small.

- In Table I-C it can be observed that the difference in total FSY 1980 payouts and actual payouts under the statewide simulation is more than double the FSY 1979 figure (i.e., 8.51 percent and 4.21 percent, respectively). This increase in the size of the difference between the statewide simulation and the actual payout figures probably reflects the uncontrolled influence of inflation in prevailing charges in the simulation. The actual payouts, on the other hand, are controlled for inflation by the Economic Index limitation on the prevailing charges.

- Differential effects of inflation can be observed in Table I-C based on specialty group, and these differences are substantial.

We can assume that the overestimation of payouts is due to the lack of control for inflation on the simulated prevailing charges. Thus where differences between actual and statewide payouts are large, the inflation in submitted charges can be assumed to be greater (meaning that the prevailing charges calculated from those submitted charges will be higher). Where there is little difference, most of the submitted charges probably are not exceeding the inflation rate, so that the prevailing ceiling does not become a factor; and, thus, actual payouts are close to the simulated statewide payouts.

It can be observed that the Medical Specialties category shows the greatest variance from the actual payout figures and the "Other" category the least, with General Practice being the second lowest in the size of this difference. This indicates a greater inflation in charges for the Medical Specialties and Surgical Specialties categories when compared with the remaining payment groups.

TABLE I-A

Medicare Payout Totals by Specialty and Quarter
FSY 1979 and FSY 1980

	QUARTER 1		QUARTER 2		QUARTER 3		QUARTER 4		TOTAL	
	YEAR 1	YEAR 2	YEAR 1	YEAR 2	YEAR 1	YEAR 2	YEAR 1	YEAR 2	YEAR 1	YEAR 2
MEDICAL SPECIALTIES										
MULTIPLE AREA	2,448,849	3,010,632	2,503,461	3,272,219	2,654,652	3,506,502	2,863,806	3,655,471	10,470,768	13,444,482
STATEWIDE	2,440,905	3,019,669	2,503,911	3,290,759	2,669,558	3,536,669	2,877,473	3,708,166	10,491,847	13,555,263
ACTUAL	2,210,369	2,608,132	2,263,904	2,867,298	2,411,663	3,064,451	2,589,581	3,213,892	9,475,517	11,753,773
GENERAL PRACTICE										
MULTIPLE AREA	3,418,321	3,803,945	3,399,893	3,852,204	3,660,989	4,353,215	3,622,931	4,278,102	14,102,134	16,287,466
STATEWIDE	3,365,251	3,713,651	3,347,159	3,767,196	3,611,257	4,262,841	3,564,638	4,183,380	13,888,305	15,927,068
ACTUAL	3,330,044	3,563,215	3,299,998	3,599,534	3,575,939	4,080,622	3,507,368	4,021,171	13,713,349	15,264,642
SURGICAL SPECIALTIES										
MULTIPLE AREA	1,752,443	2,040,567	1,915,513	2,069,359	1,791,372	2,152,194	1,866,994	2,252,937	7,326,322	8,515,057
STATEWIDE	1,732,771	2,031,403	1,892,885	2,063,233	1,771,916	2,156,319	1,849,597	2,250,346	7,247,169	8,501,301
ACTUAL	1,685,698	1,868,973	1,836,572	2,892,354	1,726,864	1,972,699	1,791,591	2,074,914	7,040,725	7,807,940
OTHER PHYSICIANS										
MULTIPLE AREA	783,443	757,015	737,585	810,635	716,400	841,738	716,044	879,546	2,953,472	3,288,934
STATEWIDE	778,069	753,021	733,376	805,331	713,300	836,021	711,793	868,921	2,936,538	3,263,294
ACTUAL	778,061	719,514	734,878	789,257	713,131	822,352	710,779	853,802	2,936,849	3,184,925
TOTAL, ALL PHYSICIANS										
MULTIPLE AREA	8,403,115	9,612,162	8,556,453	10,004,420	8,823,416	10,853,654	9,069,776	11,066,060	34,852,760	41,536,296
STATEWIDE	8,316,998	9,517,745	8,477,334	9,926,520	8,766,035	10,791,853	9,003,505	11,010,817	34,563,872	41,246,935
ACTUAL	8,004,175	8,759,838	8,135,355	9,147,448	8,427,580	9,940,127	8,599,324	10,163,879	33,166,434	38,011,292

TABLE I-B

Percent Difference between Statewide and Multilocality Simulations in Medicare Payouts by Specialty and Quarter FSY 1979 and FSY 1980

	LOCALITY 1	LOCALITY 2	LOCALITY 3	LOCALITY 4	LOCALITY 5
YEAR 1					
QUARTER 1	- 4.29	+ 1.26	+ 1.55	+ 1.90	+ 0.39
QUARTER 2	- 4.40	+ 1.58	+ 1.55	+ 2.52	+ 0.34
QUARTER 3	- 4.36	+ 2.36	+ 1.36	+ 2.95	+ 0.30
QUARTER 4	- 4.66	+ 2.48	+ 1.61	+ 2.87	+ 0.51
YEAR 2					
QUARTER 1	- 4.29	+ 1.15	+ 2.37	+ 1.21	+ 1.38
QUARTER 2	- 4.26	+ 1.41	+ 3.21	+ 1.47	+ 1.68
QUARTER 3	- 4.25	+ 1.68	+ 3.08	+ 1.83	+ 1.70
QUARTER 4	- 4.60	+ 2.10	+ 3.21	+ 2.06	+ 1.97
TOTAL YEAR 1	- 4.43	+ 1.84	+ 1.64	+ 2.57	+ 0.38
TOTAL YEAR 2	- 4.35	+ 1.60	+ 3.01	+ 1.67	+ 1.70

Note: Calculated by taking the difference between the statewide and simulated payouts by locality and dividing by the multilocality payout.

TABLE I-C

Percent Difference between Statewide Simulation and Actual Medicare Payouts by Specialty and Quarter FSY 1979 and FSY 1980

	MEDICAL SPECIALTIES	SURGICAL SPECIALTIES	GENERAL PRACTICE	OTHER PHYSICIANS	TOTAL, ALL PHYSICIANS
YEAR 1					
QUARTER 1	+ 10.43	+ 2.77	+ 1.06	*	+ 3.91
QUARTER 2	+ 10.60	+ 3.07	+ 1.43	- 0.20	+ 4.20
QUARTER 3	+ 10.69	+ 2.61	+ 0.99	+ 0.02	+ 4.02
QUARTER 4	+ 11.12	+ 3.24	+ 1.63	+ 0.14	+ 4.70
YEAR 2					
QUARTER 1	+ 15.78	+ 8.69	+ 4.22	+ 4.66	+ 8.65
QUARTER 2	+ 14.77	+ 9.09	+ 4.66	+ 2.04	+ 8.52
QUARTER 3	+ 15.41	+ 9.31	+ 4.47	+ 1.66	+ 8.57
QUARTER 4	+ 15.38	+ 8.45	+ 4.03	+ 1.77	+ 8.33
TOTAL YEAR 1	+ 10.79	+ 2.93	+ 1.25	- 0.01	+ 4.21
TOTAL YEAR 2	+ 15.33	+ 8.88	+ 4.43	+ 2.46	+ 8.51

Note: Calculated by taking the difference between the statewide simulation payout and the actual payout and dividing by the actual payout.

localities

Table II-A presents simulated payouts by locality and quarter for FSY 1979 and FSY 1980. These figures are summarized in Table II-B, showing the differences in payouts between the statewide and multilocality simulations.

Differences between the two simulations are small in all cases; however, there does seem to be some movement toward greater differences between the two methods in Locality 3 and in Locality 5, with the direction being toward higher payouts under the statewide system compared to the multilocality system.

Comparing the different localities, in terms of payouts, Locality 1 represents about 40 percent of total payouts for each year. (See Table II-A.)

In all quarters, Locality 1 claims utilizing the multilocality simulation of fee screens resulted in higher payouts than when the statewide method was used. The reverse is true for total payouts for claims in the other four localities. However, because of the preponderance of payments associated with Locality 1, the most urban locality, total payouts using the statewide methodology are lower than for multiple-area payouts. This pattern holds true for all four quarters of each fee screen year. (See Table II-B.)

TABLE II-A

Medicare Payout Totals by Locality and Quarter
FSY 1979 and FSY 1980

	QUARTER 1		QUARTER 2		QUARTER 3		QUARTER 4		TOTAL	
	YEAR 1	YEAR 2	YEAR 1	YEAR 2	YEAR 1	YEAR 2	YEAR 1	YEAR 2	YEAR 1	YEAR 2
LOCALITY 1										
MULTIPLE AREA	3,466,261	4,022,272	3,564,214	4,194,476	3,562,977	4,385,299	3,791,432	4,469,156	14,334,884	17,071,203
STATEWIDE	3,317,654	3,850,187	3,407,387	4,015,708	3,407,569	4,198,759	3,566,965	4,263,609	13,699,575	16,328,263
LOCALITY 2										
MULTIPLE AREA	1,541,519	1,742,891	1,543,880	1,841,463	1,574,578	1,922,588	1,659,754	2,053,868	6,325,731	7,560,810
STATEWIDE	1,460,977	1,762,864	1,568,234	1,867,401	1,611,711	1,954,816	1,700,912	2,097,027	6,441,834	7,682,108
LOCALITY 3										
MULTIPLE AREA	733,176	845,976	784,376	865,122	785,640	912,082	797,055	997,484	3,100,247	3,620,664
STATEWIDE	744,421	864,992	797,259	891,397	797,172	940,373	812,231	1,032,965	3,151,083	3,729,727
LOCALITY 4										
MULTIPLE AREA	1,423,389	1,640,689	1,444,567	1,699,886	1,533,957	1,967,989	1,577,700	1,963,579	5,979,613	7,272,143
STATEWIDE	1,450,387	1,660,551	1,480,920	1,724,958	1,579,249	2,003,927	1,623,013	2,004,004	6,133,569	7,393,440
LOCALITY 5										
MULTIPLE AREA	1,238,770	1,360,332	1,219,414	1,403,472	1,366,261	1,665,723	1,293,833	1,581,969	5,118,278	6,011,496
STATEWIDE	1,243,557	1,379,162	1,223,530	1,427,054	1,370,330	1,693,976	1,300,382	1,613,210	5,137,799	6,113,391
TOTAL										
MULTIPLE AREA	8,403,115	9,612,162	8,556,453	10,004,420	8,823,416	10,853,654	9,069,776	11,066,060	34,852,760	41,536,296
STATEWIDE	8,316,998	9,517,745	8,477,334	9,926,520	8,766,035	10,791,853	9,003,505	11,010,817	34,563,872	41,246,935
ACTUAL	8,004,175	8,759,838	8,135,355	9,147,448	8,427,580	9,940,127	8,599,324	10,163,879	33,166,434	38,011,292

TABLE II-B

Percent Difference between Statewide and Multilocality Simulations in Medicare Payouts by Locality and Quarter FSY 1979 and FSY 1980

	LOCALITY 1	LOCALITY 2	LOCALITY 3	LOCALITY 4	LOCALITY 5
YEAR 1					
QUARTER 1	- 4.29	+ 1.26	+ 1.55	+ 1.90	+ 0.39
QUARTER 2	- 4.40	+ 1.58	+ 1.55	+ 2.52	+ 0.34
QUARTER 3	- 4.36	+ 2.36	+ 1.36	+ 2.95	+ 0.30
QUARTER 4	- 4.66	+ 2.48	+ 1.61	+ 2.87	+ 0.51
YEAR 2					
QUARTER 1	- 4.29	+ 1.15	+ 2.37	+ 1.21	+ 1.38
QUARTER 2	- 4.26	+ 1.41	+ 3.21	+ 1.47	+ 1.68
QUARTER 3	- 4.25	+ 1.68	+ 3.08	+ 1.83	+ 1.70
QUARTER 4	- 4.60	+ 2.10	+ 3.21	+ 2.06	+ 1.97
TOTAL YEAR 1	- 4.43	+ 1.84	+ 1.64	+ 2.57	+ 0.38
TOTAL YEAR 2	- 4.35	+ 1.60	+ 3.01	+ 1.67	+ 1.70

Note: Calculated by taking the difference between the statewide and simulated payouts by locality and dividing by the multilocality payout.

B. Medicaid Payouts

specialty groups and actual payouts

Table III-A presents Medicaid simulated and actual payout figures for FSY 1979 and FSY 1980 by quarter and specialty group. Tables III-B and III-C summarize Table III-A, showing the percent difference between statewide and multilocality simulations in the case of the former, and the percent difference between statewide simulated payouts and actual payouts in the case of the latter. The following observations can be made concerning the Medicaid data presented in these tables:

1. Total payouts represented by the procedures sampled for this study in FSY 1979 were about 51 percent of total actual payouts for that year (i.e., a sample of claims representing $5,888,790 from a total database representing $11,584,911), whereas the sampled claims represented 43 percent of total FSY 1980 payouts ($7,087,820 from a total payout of $16,603,395). It can be observed, however, that in actual dollar amounts the 1980 payouts from our sample are substantially higher than the 1979 payouts.

The observed reduction in proportion of payouts represented by our sample may reflect the change from CPT-3 to CPT-4 coding systems for Medicaid procedures in July 1, 1979, the beginning of FSY 1980. Although this study utilizes the same CRVS codes cross-referenced to the CPT-3 and CPT-4 versions, the reduction in proportion of payouts may suggest that these systems are not completely comparable. Thus, a smaller proportion of claims may be cross-referenced to the CRVS procedure codes utilized for this study for FSY 1980 than was true for FSY 1979.

Another indication that the population of claims is not entirely comparable for FSY 1979 and FSY 1980 Medicaid data is the distribution of total payouts represented in each specialty category. The comparative actual payout amounts are:

	1979 Percent Payouts	1980 Percent Payouts	Difference in Percent
Medical Specialties	20.79	23.59	+ 2.80
General Practice	57.49	53.26	- 4.20
Surgical Specialties	16.23	15.74	- 0.49
Other Physicians	5.47	7.39	+ 1.90

It can be seen that there is a substantial decrease in the General Practice specialty group. This could represent an actual proportional decrease in services rendered by the group as a whole (or a relatively lower payout for services rendered); however, it is more likely that a larger number of ambiguities arose for services rendered by the General Practice group when the CPT-3 coding system was changed to a CPT-4 system. Discussions with Medicaid staff in Arkansas suggest that under the CPT-4 system more bills for services may be included under laboratory procedure codes, excluded from our study, thus decreasing the proportion of total claims encompassed under procedure codes sampled for this study.

2 Examining Table III-B we observe that the direction of difference in total payouts under the two simulations is reversed in 1980, i.e., there is a higher payout indicated under the statewide simulation than under the multilocality simulation. The difference (0.32 percent) is very small for the 1980 payouts; nonetheless it represents a more than three percent change since 1979 (with a 2.98 percent difference, and statewide payouts lower in 1979).

Quarterly figures for total payouts in Table III-B show a trend from lower payouts to higher payouts under the statewide simulation. In the four quarters of FSY 1979 and in the first quarter of 1980, lower payouts were indicated for the statewide simulation. For the subsequent three quarters, higher payouts were indicated. The Medical Specialties and Surgical Specialties categories show the same pattern; from lower to higher payouts under the statewide simulation, while the General Practice category shows the opposite direction.

Absolute difference between the two simulations decreased for the Medical Specialties and Surgical Specialties categories from FSY 1979 to FSY 1980; for the General Practice and Other categories, the difference in the two simulations increased.

3 Table III-C on percent difference between simulated and actual payouts shows no marked differences among specialty categories in FSY 1979; however, in FSY 1980 a much greater difference between the simulated payout and actual payout is indicated for the Medical Specialties category (14.62 percent higher under the simulation than under the actual payout totals). This indicates the higher inflation in charges for this category, uncontrolled by the Economic Index limitation on the prevailing charges.

Medicaid payouts showed an overall increase in the difference between the statewide simulation and actual payouts; but this difference was not as large as in the case of the Medicare payouts--about 2.5 percent, rather than 4.3 percent. This difference

between Medicare and Medicaid could reflect the implementation of Medicaid prevailing charges (i.e., charges based on Medicaid claims data) in January, 1980, which may reduce the impact of inflation on the Medicaid Program (since the lower of the Medicare or Medicaid charges is selected as the prevailing charge.) Our data seem to support that thesis, in that differences in the simulation and actual payouts are lower for the last two quarters of FSY 1980 than for the first two. However, the last two quarters of FSY 1979 were also lower in terms of the difference than were the first two, suggesting a seasonal variation in charging patterns (or payout amounts) rather than an influence of Medicaid prevailing charges.

TABLE III-A

Medicaid Payout Totals by Specialty and Quarter
FSY 1979 and FSY 1980

	QUARTER 1		QUARTER 2		QUARTER 3		QUARTER 4		TOTAL	
	YEAR 1	YEAR 2	YEAR 1	YEAR 2	YEAR 1	YEAR 2	YEAR 1	YEAR 2	YEAR 1	YEAR 2
MEDICAL SPECIALTIES										
MULTIPLE AREA	312,289	400,386	300,375	426,108	380,231	505,872	431,357	514,084	1,424,252	1,846,450
STATEWIDE	285,968	409,526	291,919	438,932	356,471	530,679	415,836	538,741	1,350,194	1,917,878
ACTUAL	239,972	347,095	268,318	380,410	342,572	464,448	373,668	480,231	1,224,530	1,673,184
GENERAL PRACTICE										
MULTIPLE AREA	823,560	960,568	836,140	949,949	918,828	1,098,856	956,473	1,049,615	3,535,001	4,058,988
STATEWIDE	827,268	941,887	836,620	933,853	918,828	1,080,427	952,875	1,029,866	3,534,820	3,986,033
ACTUAL	739,983	873,542	808,751	877,210	905,678	1,037,455	931,215	986,954	3,385,627	3,775,161
SURGICAL SPECIALTIES										
MULTIPLE AREA	282,285	289,848	261,573	281,604	284,614	295,439	299,995	317,116	1,128,467	1,184,007
STATEWIDE	244,236	295,860	233,024	284,227	258,023	301,997	271,923	323,167	1,007,206	1,205,251
ACTUAL	217,585	268,009	220,603	260,262	252,593	281,273	265,363	306,450	956,144	1,115,994
OTHER PHYSICIANS										
MULTIPLE AREA	73,204	114,757	75,110	124,237	85,032	152,474	105,464	177,044	338,810	568,512
STATEWIDE	74,055	116,455	77,097	126,340	86,147	152,720	105,523	177,752	342,822	573,267
ACTUAL	68,319	99,264	73,245	112,756	82,375	142,718	98,544	169,736	322,483	524,474
TOTAL, ALL PHYSICIANS										
MULTIPLE AREA	1,491,339	1,765,560	1,473,200	1,781,901	1,668,707	2,052,642	1,793,290	2,057,861	6,426,536	7,657,964
STATEWIDE	1,431,528	1,763,731	1,438,661	1,783,354	1,618,699	2,065,825	1,746,159	2,069,527	6,235,047	7,682,437
ACTUAL	1,265,861	1,587,731	1,370,919	1,630,640	1,583,219	1,925,896	1,668,791	1,943,373	5,888,790	7,087,820

TABLE III-B

Percent Difference between Statewide and Multilocality Simulations in Medicaid Payouts by Specialty and Quarter FSY 1979 and FSY 1980

	MEDICAL SPECIALTIES	SURGICAL SPECIALTIES	GENERAL PRACTICE	OTHER PHYSICIANS	TOTAL, ALL PHYSICIANS
YEAR 1					
QUARTER 1	- 8.43	- 15.58	+ 0.45	+ 1.16	- 4.01
QUARTER 2	- 2.82	- 10.91	+ 0.06	+ 2.65	- 2.34
QUARTER 3	- 6.25	- 9.34	- 0.08	+ 1.31	- 3.00
QUARTER 4	- 3.60	- 9.36	- 0.38	+ 0.01	- 2.62
YEAR 2					
QUARTER 1	+ 2.28	+ 2.07	- 1.94	+ 1.48	- 0.10
QUARTER 2	+ 3.01	+ 0.93	- 1.69	+ 1.69	+ 0.08
QUARTER 3	+ 4.90	+ 2.22	- 1.68	+ 0.16	+ 0.64
QUARTER 4	+ 4.80	+ 1.91	- 1.88	+ 0.40	+ 0.57
TOTAL YEAR 1	- 5.20	- 10.75	- 0.01	+ 6.31	- 2.98
TOTAL YEAR 2	+ 3.87	+ 1.79	- 1.80	+ 9.30	+ 0.32

Note: Calculated by taking the difference between the statewide and multilocality payouts and dividing by the multilocality payout.

TABLE III-C

Percent Difference between Statewide Simulation and Actual Medicaid Payouts by Specialty and Quarter FSY 1979 and FSY 1980

	MEDICAL SPECIALTIES	SURGICAL SPECIALTIES	GENERAL PRACTICE	OTHER PHYSICIANS	TOTAL, ALL PHYSICIANS
YEAR 1					
QUARTER 1	+ 19.17	+ 10.91	+ 11.80	+ 8.40	+ 13.09
QUARTER 2	+ 8.80	+ 5.63	+ 3.45	+ 5.26	+ 4.94
QUARTER 3	+ 4.06	+ 2.15	+ 1.37	+ 4.58	+ 2.24
QUARTER 4	+ 11.28	+ 2.47	+ 2.33	+ 7.08	+ 4.64
Year 2					
QUARTER 1	+ 17.99	+ 10.39	+ 7.82	+ 17.32	+ 11.08
QUARTER 2	+ 15.38	+ 9.21	+ 6.46	+ 12.05	+ 9.37
QUARTER 3	+ 14.26	+ 7.37	+ 4.14	+ 7.01	+ 7.27
QUARTER 4	+ 12.18	+ 5.46	+ 4.35	+ 4.72	+ 6.49
TOTAL YEAR 1	+ 3.87	+ 5.34	+ 4.41	+ 6.31	+ 5.88
TOTAL YEAR 2	+ 14.62	+ 7.91	+ 5.59	+ 9.30	+ 8.39

Note: Calculated by taking the difference between the statewide simulation payout and the actual payout and dividing by the actual payout.

localities

Table IV-A presents FSY 1979 and FSY 1980 payouts under the Medicaid program by both simulation methods and by locality and quarter.

Table IV-B summarizes these figures in terms of the difference between the two simulations. Looking at the distribution of payouts for FSY 1979 and FSY 1980 by locality in Table IV-B, it can be observed that:

- The Medicaid payouts are more evenly distributed by locality than are the Medicare payouts. It will be recalled that 40 percent of Medicare payouts are to physicians in Locality 1. In contrast, Locality 1 accounts for under 25 percent of payouts for the Medicaid program, under either simulation and for either fee screen year in this study.

- In FSY 1979, only Locality 4 showed higher payouts under the statewide than under the multilocality simulation. In FSY 1980, higher payouts were shown for Locality 2, Locality 3, and Locality 5 under the statewide simulation. Interestingly, Locality 4 showed lower payouts in FSY 1980 under the statewide simulation.

As discussed above, some of the observed differences between FSY 1979 and FSY 1980 payouts may be attributable to the implementation of the new version of the CPT procedure coding system--CPT-4. It should be noted, however, that the first quarter of FSY 1980 shows higher total Medicaid payouts under the multilocality simulation, the pattern exhibited in FSY 1979, supporting an argument that a trend exists toward higher payouts under the statewide method of calculating reasonable charges for the Medicaid program.

Another possibility is that the CPT-4 system was not fully implemented until the second quarter of FSY 1980, so that physicians may have been using the old CPT-3 system in a large number of cases as the CPT-4 system was phased in. Thus, the impact of the change did not become evident in the payout figures until the second quarter of FSY 1980.

discussion

The change from a lower to higher payout overall under the statewide simulation appears to be attributable to a change in the Medical Specialties and Surgical Specialties categories--representing a higher proportion of claims in FSY 1980 than in FSY 1979. At the same time, a change from lower to higher payouts in these specialty categories under the statewide system can be observed from FSY 1979 to FSY 1980. These factors combined with the lack of impact comparable to that observed under the Medicare program from Locality 1 have resulted in a comparative increase in Medicaid payouts under the statewide simulation for FSY 1980. It can be concluded that since the Medicaid payouts are not concentrated in any one locality, the impact of reducing reasonable charges in the more urban areas does not counterbalance the increase in payouts in rural areas for FSY 1980 under the statewide simulation.

TABLE IV-A

Medicaid Payout Totals by Locality and Quarter
FSY 1979 and FSY 1980

	QUARTER 1		QUARTER 2		QUARTER 3		QUARTER 4		TOTAL	
	YEAR 1	YEAR 2	YEAR 1	YEAR 2	YEAR 1	YEAR 2	YEAR 1	YEAR 2	YEAR 1	YEAR 2
LOCALITY 1										
MULTIPLE AREA	311,309	425,167	320,557	438,418	364,152	508,573	432,535	509,455	1,428,553	1,881,613
STATEWIDE	296,177	404,017	305,960	418,299	345,017	483,095	406,751	482,737	1,353,905	1,788,148
LOCALITY 2										
MULTIPLE AREA	277,085	275,077	259,250	277,594	298,237	328,328	300,978	334,713	1,135,550	1,215,712
STATEWIDE	243,184	289,114	236,263	292,673	271,040	351,271	287,370	360,527	1,037,857	1,293,585
LOCALITY 3										
MULTIPLE AREA	265,735	303,733	236,711	295,654	287,308	311,477	303,353	319,968	1,093,107	1,230,832
STATEWIDE	253,468	311,553	240,762	304,430	285,899	325,412	286,022	336,217	1,166,151	1,277,612
LOCALITY 4										
MULTIPLE AREA	332,700	429,203	332,791	415,065	375,446	483,341	391,898	482,614	1,432,835	1,810,223
STATEWIDE	337,714	423,865	335,997	410,560	378,293	479,262	406,538	473,436	1,458,545	1,787,123
LOCALITY 5										
MULTIPLE AREA	304,508	332,378	323,889	355,167	343,562	420,921	364,523	411,109	1,336,482	1,519,575
STATEWIDE	300,982	335,180	319,677	357,390	338,449	426,783	359,476	416,608	1,318,584	1,535,961
TOTAL										
MULTIPLE AREA	1,491,339	1,765,560	1,473,661	1,781,901	1,668,707	2,052,642	1,793,290	2,057,861	6,426,536	7,657,964
STATEWIDE	1,431,528	1,763,731	1,438,661	1,783,354	1,618,699	2,065,825	1,746,159	2,069,527	6,235,047	7,682,437
ACTUAL	1,265,861	1,587,911	1,370,919	1,630,640	1,583,219	1,925,896	1,368,791	1,943,373	5,888,790	7,087,820

TABLE IV-B

Percent Difference between Statewide and Multilocality Simulations in Medicaid Payouts by Locality and Quarter FSY 1979 and FSY 1980

	MEDICAL SPECIALTIES	SURGICAL SPECIALTIES	GENERAL PRACTICE	OTHER PHYSICIANS	TOTAL, ALL PHYSICIANS
YEAR 1					
QUARTER 1	- 4.86	- 12.23	- 4.62	+ 1.51	- 1.16
QUARTER 2	- 4.55	- 8.87	+ 1.71	+ 9.63	+ 1.30
QUARTER 3	- 5.28	- 9.12	- 4.90	- 0.76	- 1.49
QUARTER 4	- 5.96	- 4.52	- 5.71	+ 4.04	- 1.38
YEAR 2					
QUARTER 1	- 4.97	+ 5.10	+ 2.57	+ 1.24	+ 0.84
QUARTER 2	- 5.01	+ 6.99	+ 4.47	- 0.84	+ 1.39
QUARTER 3	- 5.96	- 4.52	- 5.71	+ 4.04	- 1.38
QUARTER 4	- 5.53	+ 7.71	+ 5.08	- 2.11	+ 1.34
TOTAL YEAR 1	- 5.23	- 8.60	+ 6.68	- 1.79	- 1.34
TOTAL YEAR 2	- 5.16	+ 6.41	+ 3.80	- 1.28	+ 1.08

Note: Calculated by taking the difference between the statewide and simulated payouts by locality and dividing by the multilocality payout.

C. Assignment Rates

Under the Medicare program, "assigned" cases are those for which the physician has agreed to accept, as total payment for his service, the reasonable charge determined for that service by Medicare. "Unassigned" cases are those for which the physician has not agreed to accept the reasonable charge as his total payment, so that the beneficiary must absorb any extra charge above the 80 percent of the reasonable charge reimbursed by Medicare. Tables V-A and V-B show the assignment rates for FSY 1979 and FSY 1980, respectively, and the claims frequencies by locality, specialty category, and assignment status. These are the actual figures tabulated from the claims records included in this study, and are not simulated.

It can be observed that there is little change from FSY 1979 to FSY 1980, although there is a small decrease overall in assignment rates from 51.77 percent in FSY 1979 to 50.46 percent in FSY 1980. Neither the specialty categories nor the localities show any marked change from the first to the second year of the study.

TABLE V-A

Assignment Frequencies and Rates
by Specialty and Locality
FSY 1979

LOCATION	PAYMENT STATUS	MEDICAL SPECIALTIES	GENERAL PRACTICE	SURGICAL SPECIALTIES	OTHER PHYSICIANS	TOTAL, ALL PHYSICIANS
		- PAYMENT GROUPS -				
		Assignment Rate*	Assignment Rate*	Assignment Rate*	Assignment Rate*	Assignment Rate*
AREA 1	ASSIGNED	98,465 (37.89%)	50,748 (36.46%)	45,443 (35.14%)	167,780 (65.24%)	362,436 (46.32%)
	UNASSIGNED	161,338	88,436	83,870	89,386	420,018
AREA 2	ASSIGNED	60,286 (43.24%)	62,044 (45.87%)	33,265 (31.35%)	623 (3.79%)	156,218 (40.42%)
	UNASSIGNED	79,132	73,190	72,833	15,797	230,260
AREA 3	ASSIGNED	20,151 (52.44%)	110,732 (70.13%)	23,071 (66.17%)	351 (64.52%)	154,305 (66.59%)
	UNASSIGNED	18,270	47,152	11,792	193	77,407
AREA 4	ASSIGNED	47,079 (59.65%)	164,683 (53.92%)	26,986 (51.67%)	964 (59.10%)	239,712 (54.70%)
	UNASSIGNED	31,835	140,730	25,237	667	198,469
AREA 5	ASSIGNED	693 (29.06%)	265,773 (61.08%)	6,932 (51.06%)	1,243 (35.12%)	274,641 (60.41%)
	UNASSIGNED	1,691	169,337	6,644	2,296	179,968
OVERALL	ASSIGNED	226,674 (43.68%)	653,980 (55.76%)	135,697 (40.74%)	170,961 (63.64%)	1,187,312 (51.77%)
	UNASSIGNED	292,266	518,845	197,364	97,647	1,106,122

*Percent of all cases assigned.

TABLE V-B

Assignment Frequencies and Rates
by Specialty and Locality
FSY 1980

LOCATION	PAYMENT STATUS	MEDICAL SPECIALTIES	GENERAL PRACTICE	SURGICAL SPECIALTIES	OTHER PHYSICIANS	TOTAL, ALL PHYSICIANS
		- PAYMENT GROUPS -				
		Assignment Rate*	Assignment Rate*	Assignment Rate*	Assignment Rate*	Assignment Rate*
AREA 1	ASSIGNED	109,320 (38.55%)	51,502 (35.49%)	45,739 (34.33%)	144,936 (61.65%)	351,497 (44.10%)
	UNASSIGNED	174,251	93,625	87,485	90,175	445,536
AREA 2	ASSIGNED	63,362 (41.02%)	60,081 (41.40%)	31,633 (29.85%)	892 (10.73%)	155,968 (37.98%)
	UNASSIGNED	91,094	81,785	74,352	7,422	254,653
AREA 3	ASSIGNED	24,743 (53.70%)	111,921 (67.63%)	22,385 (64.43%)	297 (35.65%)	159,346 (64.48%)
	UNASSIGNED	21,334	53,567	12,358	536	87,795
AREA 4	ASSIGNED	51,618 (55.75%)	168,555 (53.25%)	27,836 (48.26%)	8,472 (76.57%)	256,481 (53.67%)
	UNASSIGNED	40,971	147,970	29,839	2,592	221,372
AREA 5	ASSIGNED	4,404 (59.95%)	282,840 (61.39%)	8,809 (58.01%)	4,423 (48.41%)	300,476 (61.02%)
	UNASSIGNED	2,942	177,900	6,377	4,713	191,932
OVERALL	ASSIGNED	253,447 (43.40%)	674,899 (54.88%)	136,402 (39.3%)	159,020 (60.13%)	1,223,768 (50.46%)
	UNASSIGNED	330,592	554,847	210,411	105,438	1,201,288

*Percent of all cases assigned.

D. Beneficiary Liability - Assigned Claims

Tables VI-A and VI-B present total beneficiary liabilities for "assigned" claims for FSY 1979 and FSY 1980, respectively, by locality, simulation method, and specialty group.

In general, payout figures for assigned beneficiary liabilities reflect the total payout figures under the Medicare program. This is logical since the assigned beneficiary liability is 20 percent of the reasonable charge. Thus, where the Medicare payouts are lower, assigned beneficiary liability will be lower and where Medicare total payouts are higher, assigned beneficiary liabilities should also be higher. Therefore, we see the pattern of high liabilities in Locality 1, and this is true for both FSY 1979 and FSY 1980.

Also reflecting the total figures for Medicare, there is a difference of 3.4 percent between the total payouts for the statewide simulation for FSY 1979 and the actual payouts for that year; and a 7.5 percent difference appears in statewide and actual payouts for FSY 1980.

Overall, liabilities are lower under the statewide simulation than under the multilocality simulation. However, in the case of Medical Specialties and Surgical Specialties, this relationship is reversed for FSY 1980, and is also reversed in the case of the former but not the latter for FSY 1979.

TABLE VI-A

Beneficiary Liability - Assigned Claims
Payout in Dollars
FSY 1979

LOCATION	PRICING METHOD	- PAYMENT GROUPS - MEDICAL SPECIALTIES	GENERAL PRACTICE	SURGICAL SPECIALTIES	OTHER PHYSICIANS	TOTAL, ALL PHYSICIANS
AREA 1	MULTIPLE AREA	592,211	202,194	328,962	430,899	1,554,473
	STATEWIDE	571,590	188,158	312,662	429,710	1,490,109
AREA 2	MULTIPLE AREA	242,247	198,827	218,062	2,783	661,924
	STATEWIDE	251,343	197,793	219,185	2,774	671,099
AREA 3	MULTIPLE AREA	68,003	310,436	151,735	1,285	531,464
	STATEWIDE	74,222	311,832	151,772	1,305	539,137
AREA 4	MULTIPLE AREA	159,911	523,420	127,674	3,670	814,681
	STATEWIDE	168,855	528,361	133,976	3,577	834,776
AREA 5	MULTIPLE AREA	1,966	748,210	28,946	3,616	782,743
	STATEWIDE	1,961	750,731	28,768	3,646	785,110
OVERALL	MULTIPLE AREA	1,064,346	1,983,093	855,383	442,462	4,345,291
	STATEWIDE	1,063,766	1,964,865	846,370	441,020	4,320,240
ACTUAL HISTORY TAPES		981,678	1,946,526	820,366	442,769	4,190,346

TABLE VI-B

Beneficiary Liability - Assigned Claims
Payout in Dollars
FSY 1980

LOCATION	PRICING METHOD	- PAYMENT GROUPS - MEDICAL SPECIALTIES	GENERAL PRACTICE	SURGICAL SPECIALTIES	OTHER PHYSICIANS	TOTAL, ALL PHYSICIANS
AREA 1	MULTIPLE AREA	781,148	231,765	362,619	431,025	1,806,562
	STATEWIDE	762,566	195,237	347,704	429,190	1,734,705
AREA 2	MULTIPLE AREA	292,757	224,084	240,017	4,903	761,765
	STATEWIDE	308,322	214,062	243,533	4,943	770,543
AREA 3	MULTIPLE AREA	96,065	340,522	156,645	993	594,231
	STATEWIDE	134,882	346,697	162,223	1,018	612,826
AREA 4	MULTIPLE AREA	200,867	598,749	156,349	26,038	982,007
	STATEWIDE	213,162	595,654	164,671	24,756	998,249
AREA 5	MULTIPLE AREA	18,861	868,275	36,464	12,785	935,991
	STATEWIDE	19,614	881,256	38,910	13,255	953,043
OVERALL	MULTIPLE AREA	1,389,705	2,263,400	951,701	475,752	5,080,565
	STATEWIDE	1,406,233	2,232,914	957,050	473,169	5,069,373
ACTUAL HISTORY TAPES		1,245,094	2,133,224	875,151	464,130	4,717,605

E. Beneficiary Liability - Unassigned Claims

Tables VII-A and VII-B present beneficiary liabilities for "unassigned" claims for FSY 1979 and FSY 1980, respectively. These amounts are calculated by taking the difference between the submitted charges and 80 percent of the calculated reasonable charges and summing them for each cell.

Unassigned payouts produce patterns that are almost mirror images of those for assigned payouts. This is understandable in that, where the physician decides not to accept assignment for a claim, the beneficiary must absorb the balance. Thus, it can be anticipated that where prevailing charges are lower (as under the statewide simulation in Locality 1) and calculated reasonable charge totals are lower, the beneficiary will have to pay a larger proportion of the total charge submitted by the physician.

TABLE VII-A

Beneficiary Liability - Unassigned Claims Payout in Dollars FSY 1979

LOCATION	PRICING METHOD	MEDICAL SPECIALTIES	GENERAL PRACTICE	SURGICAL SPECIALTIES	OTHER PHYSICIANS	TOTAL, ALL PHYSICIANS
		- PAYMENT GROUPS -				
AREA 1	MULTIPLE AREA	1,735,873	615,197	741,178	495,329	3,636,648
	STATEWIDE	1,862,833	778,572	864,910	507,360	4,013,681
AREA 2	MULTIPLE AREA	630,600	439,419	687,315	24,198	1,781,538
	STATEWIDE	554,032	441,347	677,060	23,818	1,696,262
AREA 3	MULTIPLE AREA	108,487	243,193	86,146	980	438,812
	STATEWIDE	91,405	239,023	87,319	908	418,661
AREA 4	MULTIPLE AREA	220,138	906,719	269,282	3,147	1,399,291
	STATEWIDE	180,418	893,561	248,629	3,137	1,325,752
AREA 5	MULTIPLE AREA	9,703	834,582	46,510	11,178	901,979
	STATEWIDE	9,591	827,084	44,527	10,780	891,987
OVERALL	MULTIPLE AREA	2,704,809	3,039,116	1,879,504	534,841	8,158,274
	STATEWIDE	2,698,285	3,179,593	1,922,453	545,573	8,346,348
ACTUAL HISTORY TAPES		3,362,742	3,261,135	2,018,454	548,839	9,191,037

TABLE VII-B

Beneficiary Liability - Unassigned Claims Payout in Dollars FSY 1980

LOCATION	PRICING METHOD	MEDICAL SPECIALTIES	GENERAL PRACTICE	SURGICAL SPECIALTIES	OTHER PHYSICIANS	TOTAL, ALL PHYSICIANS
		- PAYMENT GROUPS -				
AREA 1	MULTIPLE AREA	1,972,812	694,087	903,350	542,337	4,112,593
	STATEWIDE	2,117,456	911,032	981,071	557,444	4,567,009
AREA 2	MULTIPLE AREA	836,199	546,038	756,851	38,694	2,177,788
	STATEWIDE	717,651	597,991	736,244	39,980	2,091,871
AREA 3	MULTIPLE AREA	134,372	373,204	105,771	3,352	615,703
	STATEWIDE	119,832	357,217	101,847	3,124	582,024
AREA 4	MULTIPLE AREA	306,238	1,116,497	333,339	10,925	1,767,003
	STATEWIDE	254,008	1,125,031	319,540	12,090	1,710,674
AREA 5	MULTIPLE AREA	31,613	1,089,329	46,216	24,036	1,194,199
	STATEWIDE	28,599	1,068,142	41,858	22,105	1,160,619
OVERALL	MULTIPLE AREA	3,281,240	3,822,163	2,145,536	619,351	9,868,292
	STATEWIDE	3,237,552	4,059,422	2,180,566	634,661	10,112,201
ACTUAL HISTORY TAPES		4,385,995	4,305,719	2,539,356	676,485	11,907,556

F. Comparative Data - Assigned and Unassigned Payouts

Tables VIII-A, VIII-B, and VIII-C summarize Tables VI-A, VI-B, VII-A, and VII-B above for FSY 1979 and FSY 1980.

Table VIII-A presents differences between the statewide and multilocality payouts by specialty and assignment status. It can be observed that differences between simulations for unassigned claims tend to be larger than for assigned claims in both years. In terms of direction, beneficiary liabilities for assigned claims tend to be lower under the statewide system, while they are higher under the statewide system for the unassigned claims. The difference in the two simulations is negligible for the assigned claims, while for unassigned claims it is significant, particularly in the General Practice category for both years.

Table VIII-B shows the difference between statewide simulated payouts and actual payouts for each fee screen year by assignment status and specialty group. Given that there is no control for inflation by the Economic Index under our simulations, these differences suggest the differential impact of the Economic Index by specialty category and assignment status. Several points can be made in this regard:

1. For the Medical Specialties category, the impact was greatest in both the cases of assigned and unassigned claims. In the case of the former, the statewide simulation overestimated beneficiary liability by about 8.36 percent in FSY 1979 and by about 12.94 percent in FSY 1980. For the latter, the direction was reversed; the statewide simulation underestimated beneficiary liability by 19.76 percent in FSY 1979 and by 26.18 percent in FSY 1980.

2. In terms of the overall figures, since the reasonable charge calculated will be too large if the Economic Index is not utilized, the simulation will overestimate beneficiary liability for the assigned cases (which are calculated as 20 percent of the reasonable charge) and will underestimate liabilities where the cases are unassigned, since unassigned liabilities are the difference between the submitted and 80 percent of the calculated reasonable charges.

Table VIII-C presents the difference between statewide and multilocality liabilities by assignment status and locality. The table shows that the greatest difference between the two simulations is evident in Locality 1 for both years and for both assignment statuses. For unassigned claims, the difference is larger overall, with a greater than 10 percent difference indicated in both years. As in the case of total payout figures, Locality 1 reverses the pattern of the remaining localities and produces the overall pattern because of its large share of total payouts.

TABLE VIII-A

Percent Difference between Statewide and Multilocality Simulation Payouts by Assignment Status and Specialty FSY 1979 and FSY 1980

	ASSIGNED		UNASSIGNED	
	FSY 1979	FSY 1980	FSY 1979	FSY 1980
MEDICAL SPECIALTIES	- 0.05	+ 1.19	- 0.24	- 1.33
GENERAL PRACTICE	- 0.92	- 1.35	+ 4.62	+ 6.21
SURGICAL SPECIALTIES	- 1.05	+ 0.56	+ 2.29	+ 1.63
OTHER PHYSICIANS	- 0.33	- 0.54	+ 2.01	+ 2.47
TOTAL, ALL PHYSICIANS	- 0.58	- 0.22	+ 2.31	+ 2.41

TABLE VIII-B

Percent Difference between Statewide Simulation and Actual Payouts by Assignment Status and Specialty FSY 1979 and FSY 1980

	ASSIGNED		UNASSIGNED	
	FSY 1979	FSY 1980	FSY 1979	FSY 1980
MEDICAL SPECIALTIES	+ 8.36	+ 12.94	- 19.76	- 26.18
GENERAL PRACTICE	+ 0.94	+ 4.67	- 2.50	- 5.72
SURGICAL SPECIALTIES	+ 3.17	+ 9.36	- 4.76	- 14.13
OTHER PHYSICIANS	+ 0.40	+ 1.95	- 0.60	- 6.18
TOTAL, ALL PHYSICIANS	+ 3.10	+ 7.46	- 9.19	- 15.08

TABLE VIII-C

Percent Difference between Statewide and Multilocality Simulation Payouts by Assignment Status and Locality FSY 1979 and FSY 1980

	ASSIGNED		UNASSIGNED	
	FSY 1979	FSY 1980	FSY 1979	FSY 1980
LOCALITY 1	- 4.14	- 4.04	+ 10.36	+ 11.05
LOCALITY 2	+ 1.39	+ 1.15	- 4.79	- 3.95
LOCALITY 3	+ 1.44	+ 3.13	- 4.59	- 5.47
LOCALITY 4	+ 2.47	+ 1.65	- 5.26	- 3.19
LOCALITY 5	+ 0.30	+ 1.82	- 1.11	- 2.81
TOTAL	- 0.58	- 0.22	+ 2.31	+ 2.47

G. Crossover Claims

Tables IX-A and IX-B present Crossover payouts and summary statistics for FSY 1979 and FSY 1980. Table IX-A shows Crossover payouts by locality and simulation method. Table IX-B shows Crossover payouts by specialty group and simulation method. These tables also present the percent difference between the two simulation methods for each year.

Table IX-A shows that, for most cases, the difference between the two simulations was reduced from FSY 1979 to FSY 1980; however, for Locality 1, the difference actually increased, with the statewide methodology producing an even more pronounced lower payout in FSY 1980 than in FSY 1979 (11.14 percent versus 9.97 percent). Interestingly, for four out of five localities in FSY 1979, the statewide payout was lower than the multilocality payout; this situation was reversed for FSY 1980.

Table IX-B shows payouts by specialty groups. Again, a wide discrepancy between FSY 1979 and FSY 1980 can be observed in terms of differences between statewide and multilocality simulations. The Medical Specialties category shows the greatest change--from 1.43 percent difference in FSY 1979 to 13.89 percent difference in FSY 1980. Surgical Specialties showed a similar pattern, though not as pronounced, increasing from a 4.45 percent difference in FSY 1979 to a 12.85 percent difference in FSY 1980.

The other two categories showed negligible change from one year to the next in simulation methods, although the direction was the reverse of the Medical and Surgical Specialties categories.

Table IX-C shows the difference between simulated and actual payouts by fee screen year and specialty category. Very large discrepancies are shown for these figures. Discussions with Medicaid staff at the Arkansas site indicate that these differences result from irregular procedures for entering data, rather than from actual payouts for Crossover claims. Since Medicaid claims are merely 20 percent of the Medicare payout figures for the Crossover database, no separate analysis will be performed for the Medicaid claims. Ideally, the Medicaid sample of crossover claims would be slightly different from the Medicare sample; however, since the Crossover data are recorded in CRVS codes only, no separate sample selection could be made for the Medicare and Medicaid programs. Thus, the claim samples are identical for both programs.

TABLE IX-A

Crossover Claims: Simulated Payouts and Percent Difference between Statewide and Multilocality Payout Simulations by Locality FSY 1979 and FSY 1980

	FSY 1979	PERCENT DIFFERENCE	FSY 1980	PERCENT DIFFERENCE
LOCALITY 1				
MULTILOCALITY	1,464,523		1,751,540	
STATEWIDE	1,318,479	- 9.97	1,575,930	- 11.14
LOCALITY 2				
MULTILOCALITY	627,156		702,031	
STATEWIDE	596,173	- 5.20	723,031	+ 2.90
LOCALITY 3				
MULTILOCALITY	1,055,133		1,074,076	
STATEWIDE	972,502	- 8.50	1,108,682	+ 3.12
LOCALITY 4				
MULTILOCALITY	1,425,305		1,717,007	
STATEWIDE	1,446,724	+ 1.48	1,734,027	+ 0.98
LOCALITY 5				
MULTILOCALITY	1,765,359		1,947,337	
STATEWIDE	1,738,929	- 1.52	1,979,024	+ 1.60
TOTAL				
MULTILOCALITY	6,337,518		7,192,001	
STATEWIDE	6,072,814	- 4.36	7,120,703	- 1.00

TABLE IX-B

Crossover Claims: Simulated Payouts and Percent Difference between Statewide and Multilocality Payout Simulations by Specialty FSY 1979 and FSY 1980

	FSY 1979	PERCENT DIFFERENCE	FSY 1980	PERCENT DIFFERENCE
MEDICAL SPECIALTIES				
MULTILOCALITY	867,431		1,055,183	
STATEWIDE	746,956	- 13.89	1,040,069	- 1.43
GENERAL PRACTICE				
MULTILOCALITY	3,073,594		3,484,713	
STATEWIDE	3,049,129	- 1.80	3,427,457	- 1.64
SURGICAL SPECIALTIES				
MULTILOCALITY	947,270		954,349	
STATEWIDE	839,395	- 12.85	907,104	- 4.95
OTHER PHYSICIANS				
MULTILOCALITY	1,449,216		1,698,822	
STATEWIDE	1,437,328	- 0.82	1,721,224	+ 1.32
TOTAL, ALL PHYSICIANS				
MULTILOCALITY	6,337,518		7,192,001	
STATEWIDE	6,072,814	- 4.36	7,120,103	- 1.00

TABLE IX-C

Crossover Claims: Simulated Statewide and Actual Payouts and Percent Difference between Simulated Statewide and Actual Payouts by Specialty FSY 1979 and FSY 1980

	FSY 1979	PERCENT DIFFERENCE	FSY 1980	PERCENT DIFFERENCE
MEDICAL SPECIALTIES				
STATEWIDE	746,956	- 8.20	1,040,069	- 0.09
ACTUAL	813,724		1,040,964	
GENERAL PRACTICE				
STATEWIDE	3,049,129	- 30.49	3,427,457	- 33.78
ACTUAL	4,386,892		5,175,588	
SURGICAL SPECIALTIES				
STATEWIDE	839,395	+ 1.14	954,349	+ 5.21
ACTUAL	829,956		907,104	
OTHER PHYSICIANS				
STATEWIDE	1,437,328	- 8.57	1,698,822	- 1.30
ACTUAL	1,572,136		1,721,224	
TOTAL, ALL PHYSICIANS				
STATEWIDE	6,072,814	- 24.11	7,120,703	- 19.49
ACTUAL	8,002,496		8,844,906	

H. Office Follow-up Visit

Tables X-A and X-B present a microcosm of the total analysis for FSY 1979 and FSY 1980, respectively, for the two procedure codes: Office Follow-up Visit (CRVS Code 1-9023) and Hospital Follow-up Visit (CRVS Code 1-9004), respectively. Payouts for FSY 1980 under the Medicare program for Office Follow-up Visit represent about 7.3 percent of total payouts ($76,679,835) for the year. This compares with 7.5 percent represented by this category for FSY 1979.

Assigned beneficiary liability is overestimated by 9.5 percent and unassigned beneficiary liability is underestimated by 7.1 percent in FSY 1980; and by 10.6 percent and 21.5 percent, respectively, for FSY 1979. A decrease in the discrepancy between simulated and actual liabilities is therefore evident for the Medicare program between FSY 1979 and FSY 1980.

Although the simulation shows that assigned beneficiary liability is lower and unassigned beneficiary liability is higher utilizing the statewide methodology, the differences are not large--1.4 percent lower in the case of the former and 3 percent higher in the case of the latter.

For the Medicaid program, payouts for Office Follow-up Visit represent 7.6 percent of all Medicaid payouts for physicians' services ($16,603,395) for FSY 1980. For FSY 1979, this category represents 10 percent of all Medicaid total payouts ($11, 583,911). This again may reflect the change in the CPT coding system rather than any change in service distribution.

Reversing the total Medicaid payout figures, the simulation shows that payouts for Office Follow-up Visit are reduced under the statewide system in FSY 1980 and are increased in FSY 1979. However, the difference is small between the two simulations.

Examining within each locality the localitywide charges for FSY 1979 and FSY 1980, we can observe that in three instances the prevailing charges have been increased: in Locality 1 by $3, or 20 percent, well above the 7.5 percent inflation ceiling; in Locality 2 by $2, or 16.7 percent, also above the inflation ceiling; and statewide by $3, or 25 percent, again well above the inflation rate.

It should be observed that in FSY 1980 the weighted average reasonable charge is increased in all categories over the FSY 1979 figures. The rate of increase is greatest in Locality 4, slightly more than 10 percent.

TABLE X-A

Special Report: Office Follow-up Visit in Dollars
Fee Screen Year 1979

Locality	Prevailing Charge*	Weighted Average Reasonable Charge	MEDICARE Assigned Program Payout	MEDICARE Assigned Beneficiary Liability	MEDICARE Unassigned Program Payout	MEDICARE Unassigned Beneficiary Liability	MEDICAID Program Payout	CROSSOVERS Medicare	CROSSOVERS Medicaid
AREA 1									
Multilocality	15.00	9.00	320,528	80,132	819,035	375,853	165,649	107,554	26,888
Statewide		8.40	299,028	74,757	763,869	431,019	159,565	103,775	25,944
AREA 2									
Multilocality	12.00	7.78	283,504	70,876	673,898	312,052	135,157	71,935	17,984
Statewide		7.78	283,504	70,876	673,898	312,052	135,157	71,935	17,984
AREA 3									
Multilocality	10.00	7.37	361,624	90,406	174,322	76,751	157,894	143,911	35,978
Statewide		7.48	364,808	91,202	178,644	72,430	158,661	144,372	36,093
AREA 4									
Multilocality	10.00	7.02	650,936	162,734	648,185	300,469	400,186	298,187	74,547
Statewide		7.09	656,860	164,215	657,354	291,304	406,518	298,616	74,654
AREA 5									
Multilocality	10.00	6.83	759,012	189,753	680,584	279,130	339,537	408,307	102,077
Statewide		6.83	759,160	189,790	681,357	271,578	339,648	409,077	102,269
ALL									
Multilocality		7.47	2,375,624	593,906	2,942,867	1,337,477	1,198,428	1,034,898	258,724
Statewide	12.00	7.41	2,363,388	590,847	2,955,094	1,378,391	1,200,054	1,027,779	256,945
Actual History Tapes	Total Payout $4,710,538			Total Assigned Liability $534,415		Total Unassigned Liability $1,756,223	Total Payout $1,163,472	Total Payout $1,932,764	Total Payout $483,191

*Prevailing charges are localitywide.

TABLE X-B

Special Report: Office Follow-up Visit in Dollars
Fee Screen Year 1980

Locality	Prevailing Charge*	Weighted Average Reasonable Charge	MEDICARE Assigned Program Payout	MEDICARE Assigned Beneficiary Liability	MEDICARE Unassigned Program Payout	MEDICARE Unassigned Beneficiary Liability	MEDICAID Program Payout	CROSSOVERS Medicare	CROSSOVERS Medicaid
AREA 1									
Multilocality	18.00	10.36	380,056	95,014	974,268	401,143	184,849	116,308	29,077
Statewide		9.11	336,508	84,127	854,493	521,310	163,436	106,961	26,740
AREA 2									
Multilocality	14.00	8.62	290,232	72,558	818,847	388,637	151,298	90,348	22,587
Statewide		8.38	278,980	69,745	800,166	407,326	148,134	87,014	21,754
AREA 3									
Multilocality	10.00	7.92	454,308	113,577	249,964	130,131	218,326	201,274	50,319
Statewide		8.01	457,624	114,406	254,988	125,104	219,946	204,259	51,064
AREA 4									
Multilocality	10.00	7.67	733,968	183,492	769,263	381,233	412,886	333,428	83,332
Statewide		7.80	746,700	186,675	782,318	368,176	419,585	341,609	85,402
AREA 5									
Multilocality	10.00	7.38	943,036	235,759	810,839	388,532	465,557	497,057	124,264
Statewide		7.38	943,180	235,795	811,296	388,072	466,204	499,919	124,978
ALL									
Multilocality		8.21	2,801,624	700,406	3,623,559	1,689,683	1,432,921	1,238,421	409,605
Statewide	15.00	8.01	2,763,016	690,754	3,503,247	1,809,995	1,417,422	1,234,349	408,587
Actual History Tapes	Total Payout $5,587,817			Total Assigned Liability $630,658		Total Unassigned Liability $2,241,166	Total Payout $1,263,808	Total Payout $2,259,104	Total Payout $564,776

*Prevailing charges are localitywide.

I. Hospital Follow-up Visit

Tables XI-A and XI-B present figures for Hospital Follow-up Visit for FSY 1979 and FSY 1980, respectively. In FSY 1980, this category of service represented about 11.15 percent of total payouts ($76,679,835) under the Medicare program, compared to 12 percent of payouts for FSY 1979 (total payouts of $62,809,927). For the Medicaid program, this category is 3.93 percent of total payouts for FSY 1979 ($11,584,911) and 4.11 percent of total payouts ($16,603,395) for FSY 1980, a negligible difference for either program.

Similar to total payout figures, the statewide simulation overestimates payouts by 7 percent for the Medicare program. For Medicaid payouts, the total payout under the statewide simulation is 13 percent higher than for the actual payout figures.

As in the overall Medicare beneficiary liability figures, the assigned liability is simulated to be higher than the actual figure--in this case by about 5 percent in FSY 1980. On the other hand, the unassigned liability is underestimated--by 12 percent for this category of service. For FSY 1979, these figures were 2.8 percent and 10.2 percent, respectively.

Looking at our prevailing charges, it can be observed that three of the six increased from FSY 1979 to FSY 1980: in Locality 1 by $2, or more than 15 percent; in Locality 2, by $2, or 20 percent; and in the statewide prevailing charge by $1, or 10 percent.

In the weighted average reasonable charges, the greatest increases in statewide figures were in Locality 1, with a 13.66 percent increase; and in Locality 4, with an 11.78 percent increase. The lowest increase was in Locality 5, with a 6.6 percent increase. Therefore, there does not appear to be an equalization of fees for this category of service between the most rural and most urban localities. It should be noted, however, there may be relatively few services billed in this category from Locality 5, since hospitals are normally located in urban areas.

The multilocality and statewide simulations for the Medicaid program indicate a lower payout for the statewide methodology than for the multilocality methodology, a difference of about 2 percent for both years.

TABLE XI-A

Special Report: Hospital Follow-up Visit in Dollars
Fee Screen Year 1979

Locality	Prevailing Charge*	Weighted Average Reasonable Charge	MEDICARE Assigned Program Payout	MEDICARE Assigned Beneficiary Liability	MEDICARE Unassigned Program Payout	MEDICARE Unassigned Beneficiary Liability	MEDICAID Program Payout	CROSSOVERS Medicare	CROSSOVERS Medicaid
AREA 1									
Multilocality	13.00	10.85	1,310,056	327,514	1,533,573	686,866	153,886	409,081	102,270
Statewide		9.88	1,203,268	300,817	1,386,343	834,093	139,341	360,998	90,249
AREA 2									
Multilocality	10.00	8.00	720,008	180,002	775,136	365,923	78,794	132,868	33,217
Statewide		8.00	720,008	180,002	775,136	365,923	78,794	132,868	33,217
AREA 3									
Multilocality	10.00	6.34	495,444	123,861	168,170	82,538	60,544	190,521	47,630
Statewide		6.49	506,620	126,655	172,665	78,052	61,147	199,267	49,817
AREA 4									
Multilocality	10.00	6.31	880,312	220,078	625,043	384,659	112,988	367,595	91,899
Statewide		6.62	921,184	230,296	659,389	350,312	124,314	386,830	96,707
AREA 5									
Multilocality	10.00	6.34	976,116	244,029	549,656	275,551	100,648	474,999	118,750
Statewide		6.36	978,380	244,595	552,420	272,781	101,182	494,958	123,739
ALL									
Multilocality		7.78	4,381,964	1,095,491	3,651,561	1,795,546	506,865	1,575,070	393,767
Statewide	10.00	7.62	4,329,484	1,082,371	3,545,936	1,901,169	504,782	1,574,930	393,733
Actual History Tapes	Total Payout $7,541,153			Total Assigned Liability $1,052,859		Total Unassigned Liability $2,116,837	Total Payout $454,778	Total Payout $1,438,740	Total Payout $353,685

*Prevailing charges are localitywide.

TABLE XI-B

Special Report: Hospital Follow-up Visit in Dollars
Fee Screen Year 1980

Locality	Prevailing Charge*	Weighted Average Reasonable Charge	MEDICARE Assigned Program Payout	MEDICARE Assigned Beneficiary Liability	MEDICARE Unassigned Program Payout	MEDICARE Unassigned Beneficiary Liability	MEDICAID Program Payout	CROSSOVERS Medicare	CROSSOVERS Medicaid
AREA 1									
Multilocality	15.00	11.78	1,461,836	365,459	1,707,708	766,792	228,166	440,107	110,102
Statewide		11.23	1,395,256	348,814	1,624,646	849,851	213,277	403,804	100,901
AREA 2									
Multilocality	12.00	8.66	886,528	221,632	931,033	479,308	120,076	165,201	41,300
Statewide		8.66	885,312	221,328	933,851	476,494	124,555	169,528	42,382
AREA 3									
Multilocality	10.00	6.92	534,044	133,511	258,631	145,273	101,093	223,642	55,728
Statewide		7.09	549,368	137,342	263,357	140,545	106,532	257,986	84,499
AREA 4									
Multilocality	10.00	7.12	1,056,356	264,089	714,804	517,359	166,647	419,119	104,778
Statewide		7.40	1,102,440	275,610	740,249	491,917	183,403	477,426	119,374
AREA 5									
Multilocality	10.00	6.70	1,077,664	269,416	765,025	374,377	142,639	507,964	126,991
Statewide		6.78	1,090,004	272,501	553,896	366,926	145,992	554,881	138,720
ALL									
Multilocality		8.45	5,016,452	1,254,113	4,178,396	2,283,119	758,625	1,778,040	444,510
Statewide	11.00	8.42	5,022,408	1,255,602	4,135,776	2,325,739	773,763	1,863,630	465,726
Actual History Tapes	Total Payout $8,557,153			Total Assigned Liability $1,187,868		Total Unassigned Liability $2,684,542	Total Payout $683,919	Total Payout $1,534,432	Total Payout $383,608

*Prevailing charges are locality-wide.

J. Type of Charge Selected as Reasonable Charge

Tables XII-A, XII-B, XII-C, and XII-D present tables for proportions of submitted, prevailing, and customary charges selected for Medicare and Medicaid in FSY 1979 and FSY 1980 under each method of pricing. It should be noted that each candidate charge is selected only if it is lower than the succeeding charge, and the order of comparison is: first, submitted charge; second, customary charge; and third, prevailing charge. Thus, only if the prevailing charge makes a difference in terms of payout will it be selected; however, if the customary charge is lower than the submitted charge and equal to the prevailing charge, these charts will show it as the type of charge selected as reasonable charge. There is a bias, therefore, as far as these tables are concerned: first, in favor of the submitted charge; and second, in favor of the customary charge. However, given the focus of this study--to measure the impact of a change in calculating the prevailing charge--it seems only reasonable that the bias should act in the above-described direction rather than in the reverse direction, which would overstate the impact of the prevailing charge.

In examining these tables, the potential impact of the Economic Index should be kept in mind. It would undoubtedly increase the selections of prevailing charges. Tables XII-A and XII-B for Medicare claims for FSY 1979 and FSY 1980, respectively, show that a higher proportion of prevailing charges were selected for FSY 1980 than were selected for FSY 1979--a proportion slightly higher than for customary charges in FSY 1980, and about 10 percent higher than in FSY 1979 under either simulation. A slight reduction in the proportion of submitted charges selected can also be observed; and a somewhat larger reduction appears in the proportion of customary charges (about 3 percent in the case of the former and about 7 percent in the case of the latter).

For FSY 1979 and FSY 1980 a wide discrepancy in the proportion of prevailing charges selected for Medicare in Locality 1 under the two simulations was evidenced (19.5 percent for the multilocality method versus 30.9 percent for the statewide method for FSY 1979; and 27.7 percent versus 39.3 percent, respectively, for FSY 1980). The discrepancy in other localities is much smaller. Medicaid shows a similar pattern for prevailing charges in Locality 1 and the other localities for both years. (See Tables XII-C and XII-D.)

TABLE XII-A

Type of Charge Selected as Method of Payment
for Medicare by Locality
FSY 1979

LOCATION	PRICING METHOD	SUBMITTED CHARGE NUMBER	SUBMITTED CHARGE PERCENT	CUSTOMARY NUMBER	CUSTOMARY PERCENT	PREVAILING NUMBER	PREVAILING PERCENT	TOTAL CLAIMS NUMBER	TOTAL CLAIMS PERCENT
AREA 1	MULTIPLE AREA	302672	38.7	327361	41.8	152421	19.5	782454	100.0
	STATEWIDE	254847	32.6	285898	36.5	241709	30.9	782454	100.0
AREA 2	MULTIPLE AREA	183260	47.4	119830	31.0	83388	21.6	386478	100.0
	STATEWIDE	194987	50.5	121531	31.4	69960	18.1	386478	100.0
AREA 3	MULTIPLE AREA	106728	46.1	84109	36.3	40875	17.6	231712	100.0
	STATEWIDE	116966	50.5	83640	36.1	31106	13.4	231712	100.0
AREA 4	MULTIPLE AREA	156052	44.7	151210	34.5	80919	20.7	438181	100.0
	STATEWIDE	205521	46.9	153936	35.1	78724	18.0	438181	100.0
AREA 5	MULTIPLE AREA	228981	50.4	175399	38.6	50229	11.0	454609	100.0
	STATEWIDE	231926	51.0	175647	38.6	47036	10.3	454609	100.0
OVERALL	MULTIPLE AREA	1017693	44.4	857509	37.4	417832	18.2	2293434	100.0
	STATEWIDE	1004247	43.8	820652	35.8	468535	20.4	2293434	100.0

TABLE XII-B

Type of Charge Selected as Method of Payment
for Medicare by Locality
FSY 1980

LOCATION	PRICING METHOD	SUBMITTED CHARGE NUMBER	SUBMITTED CHARGE PERCENT	CUSTOMARY NUMBER	CUSTOMARY PERCENT	PREVAILING NUMBER	PREVAILING PERCENT	TOTAL CLAIMS NUMBER	TOTAL CLAIMS PERCENT
AREA 1	MULTIPLE AREA	322371	40.4	253785	31.6	220877	27.7	797033	100.0
	STATEWIDE	253306	31.8	230838	29.0	312889	39.3	797033	100.0
AREA 2	MULTIPLE AREA	181228	44.1	118183	28.8	111210	27.1	410621	100.0
	STATEWIDE	199354	48.5	116615	28.4	94652	23.1	410621	100.0
AREA 3	MULTIPLE AREA	98934	40.0	54679	22.1	93528	37.8	247141	100.0
	STATEWIDE	114193	46.2	56069	22.7	76879	31.1	247141	100.0
AREA 4	MULTIPLE AREA	201179	42.1	129871	27.2	146803	30.7	477853	100.0
	STATEWIDE	211733	44.3	133132	27.9	132988	27.8	477853	100.0
AREA 5	MULTIPLE AREA	193060	39.2	152444	31.0	146904	29.8	492408	100.0
	STATEWIDE	221875	45.1	158197	32.1	112336	22.8	492408	100.0
OVERALL	MULTIPLE AREA	996772	41.1	708962	29.2	719322	29.7	2425056	100.0
	STATEWIDE	1000461	41.3	694851	28.7	729744	30.1	2425056	100.0

TABLE XII-C

Type of Charge Selected as Method of Payment
for Medicaid by Locality
FSY 1979

LOCATION	PRICING METHOD	SUBMITTED CHARGE NUMBER	SUBMITTED CHARGE PERCENT	CUSTOMARY NUMBER	CUSTOMARY PERCENT	PREVAILING NUMBER	PREVAILING PERCENT	TOTAL CLAIMS NUMBER	TOTAL CLAIMS PERCENT
AREA 1	MULTIPLE AREA	33795	45.3	29365	39.4	11416	15.3	74576	100.0
	STATEWIDE	28292	37.9	27150	36.4	19134	25.7	74576	100.0
AREA 2	MULTIPLE AREA	28509	43.7	27057	41.5	9647	14.8	65213	100.0
	STATEWIDE	29143	44.7	27417	42.0	8653	13.3	65213	100.0
AREA 3	MULTIPLE AREA	38948	46.0	33748	40.0	11792	14.0	84388	100.0
	STATEWIDE	40206	47.6	34155	40.5	10027	11.9	84388	100.0
AREA 4	MULTIPLE AREA	41528	40.3	43808	42.5	17778	17.2	103114	100.0
	STATEWIDE	41922	40.7	44647	43.3	16545	16.0	103114	100.0
AREA 5	MULTIPLE AREA	58898	47.6	51486	41.6	13378	10.8	123762	100.0
	STATEWIDE	59367	48.0	51615	41.7	12780	10.3	123762	100.0
OVERALL	MULTIPLE AREA	201578	44.7	185464	41.1	64011	14.2	451053	100.0
	STATEWIDE	199930	44.1	184984	41.0	67139	14.9	451053	100.0

TABLE XII-D

Type of Charge Selected as Method of Payment
for Medicaid by Locality
FSY 1980

LOCATION	PRICING METHOD	SUBMITTED CHARGE NUMBER	SUBMITTED CHARGE PERCENT	CUSTOMARY NUMBER	CUSTOMARY PERCENT	PREVAILING NUMBER	PREVAILING PERCENT	TOTAL CLAIMS NUMBER	TOTAL CLAIMS PERCENT
AREA 1	MULTIPLE AREA	32898	38.8	35021	41.3	16972	20.0	84891	100.0
	STATEWIDE	27487	32.4	31792	37.5	25612	30.2	84891	100.0
AREA 2	MULTIPLE AREA	20427	28.6	35019	49.1	15869	22.3	71315	100.0
	STATEWIDE	24463	34.3	35860	50.3	10992	15.4	71315	100.0
AREA 3	MULTIPLE AREA	29448	30.6	52325	54.3	14506	15.1	96279	100.0
	STATEWIDE	32701	34.0	54352	56.5	9226	9.6	96279	100.0
AREA 4	MULTIPLE AREA	34154	30.3	56876	50.5	21557	19.1	112587	100.0
	STATEWIDE	37161	33.0	57534	51.1	17892	15.9	112587	100.0
AREA 5	MULTIPLE AREA	36319	27.0	78728	58.6	19232	14.3	134279	100.0
	STATEWIDE	40088	29.9	80433	59.9	13758	10.2	134279	100.0
OVERALL	MULTIPLE AREA	153246	30.7	257969	51.7	88136	17.7	499351	100.0
	STATEWIDE	161900	32.4	259971	52.1	77480	15.5	499351	100.0

K. The Economic Index

In order to gain a sense of the impact of the Economic Index on payouts (since adequate data were not supplied by Arkansas to actually calculate an inflation ceiling for the Arkansas claims data) an inflation rate was utilized with the FSY 1979 prevailing charges--the 1.075 annualized index. This figure was used to determine how many of our prevailing charges for FSY 1980 would have been lowered just on the basis of exceeding the one-year estimated inflation rate. It is acknowledged that implementing such a limitation would not provide an adequate measure of the effect of the Economic Index since:

- It would not control for prevailing charges which were above the ceiling in FSY 1979; therefore multiplying by the annualized index for FSY 1980 would derive too high a figure for the prevailing charge limitation.

- If a prevailing charge has not kept pace with inflation and increased between FSY 1979 and FSY 1980 at above the inflation rate, the adjustment may produce a "false positive," i.e., it would appear to be too high and yet still be within acceptable limits. Nonetheless, this exercise does provide us with some useful data.

Overall, 44 percent of the prevailing charges calculated for FSY 1980 exceeded inflation (as measured by the annualized index). Among the statewide prevailing charges, 60 percent was too high. This means that, in comparison with the multilocality simulation, the statewide simulation should probably produce a lower payout figure. This conclusion, of course, is based on an assumption that each prevailing charge has an equal impact on total payouts, or that the 60 percent high statewide prevailing charges impact at least as many claims, for equivalent amounts, on the average, as the 44 percent high prevailing charges under the multilocality system. This assumption seems reasonable since we are working with the same population of claims to derive all the prevailing charges and the statewide fee screens are part of the multilocality fee screens. The potential impact of the Economic Index on our findings would be:

- An increase in the observed difference between statewide and multilocality payouts for both FSY 1979 and FSY 1980 under the Medicare program and for FSY 1979 for the Medicaid program.

- A decrease in the observed difference between statewide and multilocality payouts for Medicaid for FSY 1980; or perhaps a reversal of the pattern of higher statewide payouts compared to multilocality payouts.

- A wider difference between multilocality and statewide beneficiary liabilities for assigned cases, mirroring total Medicare payouts, with the statewide liabilities being even lower in comparison.

- An increase in unassigned beneficiary liabilities, particularly under the statewide simulation.

- A decrease in both multilocality and statewide payouts and assigned beneficiary liabilities overall.

- An increase in the percent of prevailing charges selected as the reasonable charge, particularly in FSY 1980 and particularly under the statewide simulation (assuming that some prevailing charges also exceeded inflation in FSY 1979).

L. *Distribution of Physicians*

Tables XIII-A and XIII-B show population estimates for the State of Arkansas and the distribution of active physicians throughout the State. These statistics were obtained from Arkansas Health Manpower Statistics for Physicians (1978 and 1980).

Population and numbers of physicians by locality, and estimates of population/physician ratios by locality, were obtained by utilizing figures supplied for each county and aggregating them into the five localities.

Several observations are relevant to the current research on availability of medical services in Arkansas:

- Although all areas have experienced a decrease in their population/physician ratio, the largest absolute increase in number of physicians, by far, has been in Locality 1, the most urban locality, with 199 physicians added. This area also had the largest number of physicians at the beginning of the study period. However, as a percentage increase, the gain in Locality 1 is slightly below the statewide rate of increase.

- All five localities experienced a decrease in the average potential caseload per physician, measured by the population/physician ratio. The greatest gains in improving this ratio were experienced in the most rural localities, particularly in Locality 5 (where the ratio was reduced by 785 potential patients per physician). This change also reflects a large population decline in Locality 5, occurring along with an increase in the number of active physicians. In spite of this improvement, the potential caseload in Locality 5 was still more than twice as great as the statewide figure, and was substantially higher than in any of the other four localities.

- The greatest proportional increase in number of physicians was experienced in Locality 4, one of the two most rural localities, with close to 30 percent more active physicians appearing there in FSY 1980 than in FSY 1979.

TABLE XIII-A

Arkansas Population Estimates and
Percent Change by Locality
1978 and 1980

	1978	1980	CHANGE	
			DIFFERENCE	PERCENT
Locality 1	422,436	434,242	11,806	2.8
Locality 2	390,594	403,267	12,673	3.2
Locality 3	257,689	272,462	14,773	5.7
Locality 4	453,831	465,729	11,898	2.6
Locality 5	691,703	666,917	- 24,786	- 3.4
Statewide	2,216,253	2,242,617	26,364	1.2

*Source: Arkansas Health Manpower Statistics for Physicians, 1978 and 1980.

TABLE XIII-B

Numbers of Physicians and Changes in Numbers;
Population/Active Physician Ratios and
Changes in Ratios by Locality in Arkansas
1978 and 1980

	NUMBER OF MDs		CHANGE IN NUMBER OF MDs	PERCENT INCREASE	NUMBER OF PERSONS PER MD		REDUCTION IN PERSONS PER MD
	1978	1980			1978	1980	
Locality 1	966	1,165	+ 199	20.6	437	373	- 64
Locality 2	406	488	+ 82	20.2	962	826	- 136
Locality 3	134	1,671	+ 33	24.6	1,923	1,632	_ 291
Locality 4	251	326	+ 75	29.9	1,808	1,429	- 379
Locality 5	234	272	+ 36	15.3	2,831	2,046	- 775
Statewide	1,991	2,418	+ 427	21.4	1,113	927	- 186

*Source: Arkansas Health Manpower Statistics for Physicians, 1978 and 1980.

Table XIII-C plots physician movements in and out of the five localities. It reveals little change in the status quo as far as relocation of physicians is concerned. Figures above the diagonal represent numbers of physicians relocating in localities less rural than they left, and those below the diagonal indicate numbers relocating to localities on the more rural end of the rural-urban continuum. As can be observed in the Table, very few physicians relocated over the period in question--22 in all. Of these, 8 relocated in the same locality, 8 relocated in a more rural locality, and 6 relocated in a more urban locality. Very little can be concluded from these figures. There is no strong evidence against the argument that the change in fee screen computation will encourage physicians to practice in rural areas. However, given the overall improvement in population/physician ratios, the argument is not supported by our data. In any case, physician movement appears to be minimal.

TABLE XIII-C

Physician Movement in Arkansas
October 1977 - March 1979

AREA FROM:	1	2	3	4	5
AREA TO:					
1	1	0	0	1	0
2	2	1	0	2	0
3	0	0	1	1	2
4	2	1	0	4	0
5	2	0	0	1	1